

SECRETPART IISECTION 7AIR DEFENSEWARSAW PACT DEFENSE AGAINST AIR ATTACKBasic Doctrine and Objectives

1. The objective of Warsaw Pact (WP) air defense is to nullify or reduce the effectiveness of an enemy attack from aircraft and missiles. (1) The WP doctrine for air defense is part of a total strategy which seeks to destroy enemy aircraft and missiles before they are launched, to divert or destroy enemy aircraft and weapons while airborne, and to nullify or reduce the effectiveness of air and missile attacks through passive air defense measures. A basic WP concept for air defenses includes a high concentration of firepower. Air defenses are deployed around important target complexes and across the most likely approaches to them.

General

2. The Warsaw Pact stresses that coordinated use of all types of armed forces is required to achieve victory and regards strategic offensive and defensive forces as being of prime importance. It devotes significant military expenditures to the air defense of the homeland and of the armed forces. The Soviet defense program also includes a limited active defense against ballistic missiles (1).

3. Air defense of the USSR is assigned to PVO Strany (Air Defense of the Homeland) (2) which is divided into three known arms, each performing one of the key functions of the air defense mission, i.e., air surveillance and

(1) See Part II - Section 3: Antiballistic Missile Forces.
(2) See Glossary.

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control, fighter intercept, and surface-to-air missile
(SAM) operations. The antiballistic missile forces may
represent a fourth arm of PVO Strany. PVO Strany is one of
the five type forces of the Soviet armed forces and is
co-equal in status to the Air Forces, the Navy, the Ground
Forces, and the Strategic Rocket Troops.

4. The provision, maintenance, and operation of air
defense forces in individual Non-Soviet Warsaw Pact (NSWP)
countries are a national responsibility. However, the NSWP
national systems are closely coordinated and ultimately con-
trolled by a Soviet-dominated command structure to produce
a unified WP air defense organization. The NSWP systems thus
form an extension of the Soviet national air defense system.

5. Although the primary mission of the air defense
elements of the Soviet groups of forces in NSWP countries is
the defense of their field forces, they would coordinate with
the national NSWP systems in the conduct of the air defense
battle. During wartime, these same groups of forces would
be absorbed into Fronts with identical responsibility for air
defense of field forces. The Front air defenses would be
provided by aircraft from Frontal Aviation (FA) and the
ground-based air defense weapons -- along with their associated
command, control and warning networks -- of PVO Voysk (Soviet
Ground Force air defense elements) (1).

SOVIET HOMELAND AIR DEFENSE FORCES (2)General

6. The USSR is divided into 10 air defense districts
(ADD) (3), which are subdivided into 39 air defense zones
(ADZs). Most of the latter are further divided into sectors

(1) See Glossary.

(2) See Table A.13, Part III, Section 3.

(3) Western nomenclature.

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for air surveillance purposes. The ADZ is the lowest
 echelon at which integrated control over all three
 functional elements of the air defense forces is exercised.

Doctrine

7. Soviet air defense doctrine calls for the conduct of
 a closely coordinated air battle using the combined strength
 of PVO Strany interceptors and SAM forces, Frontal Aviation
 (FA) Counterair units, ground force air defense elements,
 and those naval units whose air defense systems can be
 incorporated into the overall defense system. It appears the
 Soviets rely primarily on SAMs for point defense of important
 fixed targets. SAMs also are used to form barrier defenses
 on approach routes to some important target complexes,
 with fighters covering areas forward of the SAMs and gaps
 between SAM defended areas. Available evidence points to a
 centralized, tight control (at ADZ level) over all elements
 which will rely on positive identification by radar and
 Identification, Friend or Foe (IFF). In the event of system
 degradation, the Soviets probably have procedures for
 autonomous operation by SAM and air units.

Early Warning (EW) and Ground-Controlled Intercept (GCI)

8. The Soviet early warning and ground-controlled
 intercept (EW/GCI) system is characterized by extensive
 deployment of radar sites. There are 1,140 EW/GCI sites
 containing 5,880 radars located in the USSR. Many sites
 have several different types of radar sets operating
 in many frequency bands and different IFF systems. At many
 locations radars have been mounted on masts to improve low
 altitude coverage. The radar data can be introduced into the

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command and control network manually or by several data 1
 transmission systems. In general, this deployment provides 2
 a widespread, flexible, highly reliable ground based air 3
 defense radar network. 4

9. Nine MOSS aircraft, the Soviet Airborne Warning and 5
 Control System (AWACS), provide limited surveillance and 6
 warning, primarily over the northwestern approaches to the 7
 USSR. The primary mission of the MOSS is to extend radar 8
 coverage seaward in portions of the Barents Sea. The Soviet 9
 Navy also operates radar surveillance ships in each of its 10
 fleet areas. As yet, however, radar surveillance ship 11
 deployment remains very limited in the northern approaches. 12
 Nevertheless, the radar ships have the potential to function 13
 as extensions of the land-based air surveillance system, 14
 particularly against low-altitude targets. 15

10. The PVO Strany and NSWP National Air Defense EW 16
 systems provide dense, overlapping radar coverage against 17
 aircraft at medium to high altitudes over almost all WP 18
 territory. The Leningrad region and some of the approaches 19
 through NSWP countries probably have effective cover 20
 and others, some in the interior, 21
 large areas in the USSR almost certainly remain without 22
 effective cover 23
 The Soviets have passive 24
 warning units which would be able to obtain bearings on active 25
 airborne radar or jammers. 26

11. Soviet fighter ground control system radars and 27
 equipment have an all-weather capability against aircraft 28
 attempting to penetrate at medium and high altitudes. Under 29
 normal operating conditions, ground control and tracking 30
 at medium and high altitudes are assured -- for example 31
 However, this

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range is progressively reduced as aircraft penetrate at lower altitudes, primarily because of line-of-sight limitations. The MOSS AWAC aircraft can be used to provide limited control of interceptor fighters beyond the radar range of land-based control systems. A more advanced system than MOSS will be required to provide a true airborne intercept control capability at all altitudes. In some coastal areas of the USSR a shipborne fighter control procedure is also apparently being developed.

12. During hostilities PVO Strany, FA, and PVO Voysk forces located in the USSR, will cooperate to provide an integrated, air defense under overall direction of PVO Strany. PVO Strany would support PVO Voysk during troop mobilization and movement until PVO Voysk leaves the USSR. Under conditions of strategic attack, FA counterair fighters and PVO Voysk located in the USSR undoubtedly would play a strategic air defense role in support of PVO Strany at the outset of war. The NSWP national air defense also would be coordinated by PVO Strany to maximize WP strategic air defense effectiveness. The national air defenses of the GDR, Czechoslovakia, and Poland are coordinated by a Soviet dominated WP staff at Minsk; those of Hungary, Romania, and Bulgaria by a similar body at Kiev.

Command and Control

13. The command and control network of PVO Strany displays redundancy, flexibility, and reliability, and has semiautomatic systems for weapons control and air surveillance reporting. High Frequency (HF), Very-High Frequency (VHF), Ultra-High Frequency (UHF), Super-High Frequency (SHF), microwave radio links and landlines are used to provide air defense system communications. Voice communications and

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a ground-to-air data link are used to control interceptors. 1
 New data link systems have improved Soviet target handling 2
 capability, as well as facilitating the command and control 3
 of increased numbers and types of SAMs. 4

Weapons Systems(1) 5

14. General. PVO Strany forces are deployed to provide 6
 an in-depth strategic defense of the USSR against air threats. 7
 Penetrating aircraft would face a series of defenses once 8
 detected. The initial engagement would likely be with 9
 peripheral based interceptors or long range interceptors. 10
 The penetrator would than face the SA-2, SA-3, SA-5, and 11
 further interceptor aircraft. SA-1 terminal defenses are 12
 located only around Moscow. The Soviets have the capability 13
 to arm certain strategic SAMs with nuclear warheads and may 14
 have already done so. If a period of tension preceded 15
 hostilities, the Soviets probably would deploy some AAA 16
 from storage. 17

15. SAM. 18

a. SA-2. An SA-2 barrier runs generally from the 19
 Kola Peninsula along the western and southern borders of the 20
 USSR into central Asia with deployment in the Baltic coastal 21
 areas particularly dense. SA-2 point defenses have been 22
 provided for most Soviet cities and industrial areas, naval 23
 and port facilities, missile test ranges, strategic missile 24
 sites, and airfields of Long Range Aviation (DA). It is 25
 estimated that SA-2 deployment is complete, and a selective 26
 phase-out of some units is taking place. Deployed SA-2 27
 systems have been upgraded by improved electronics. 28

(1) See Table A 13, Part III -Section 3. 29
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b. SA-3. Apart from concentrations around Moscow and Leningrad, deployment of SA-3 has been for defense of important military installations and to form a partial barrier along the Baltic coast between Leningrad and the northern end of the Soviet-Polish border. NSWP SA-3 sites continue this partial barrier along the Baltic coast through the GDR. In addition, there has been extensive deployment in the Black Sea area of the USSR. The number of ready missiles at about 30 percent of the SA-3 sites have been increased by replacing two rail launchers with four rail launchers.

c. SA-5. SA-5 are deployed in barrier fashion to encompass most of the heartland of the USSR including an SA-5 ring around Moscow. SA-5 are also deployed in eastern USSR.

16. Aircraft. APVO interceptors provide the first line of air defense and would attempt to intercept enemy aircraft prior to launch of air-to-surface missiles (ASMs). APVO units also provide a defense in-depth behind SAM barriers, fill gaps in SAM coverage, and augment point defense of special target complexes. APVO units are concentrated most heavily in the area west of the Urals and in the southern maritime region of the Soviet Far East. All interceptors in APVO have an all-weather intercept capability. Some, however, are FARMER and FRESCO whose capabilities are poor, but these aircraft are gradually being replaced. In recent years, improvements have been noted in the Air-Intercept (AI) radars employed by Soviet fighters. Because of the limited effectiveness of existing Air-To-Air Missiles (AAMs) when fired downward at targets at low altitude, the Soviets will either have to continue to engage targets from below or in near co-altitude intercepts, develop new missiles, or rely

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almost exclusively on guns for fighter armament at very low
altitudes. Air defense aircraft may operate singly or in
groups, depending on the number of targets. Approach to
the target is usually made under close GCI control and may
be either a rear or head-on attack depending on the fighter
involved.

Electronic Warfare

17. It is clear that the Soviets regard the use of
electronic warfare, particularly electronic countermeasures
(ECM), by an attacking force to be of great concern. The
Soviets have developed a variety of electronic counter-
countermeasure (ECCM) techniques to counter this threat.
ECCM measures include a proliferation of radars to provide
frequency diversity across a wide region of the radar band.
Soviet ECCM practices are also revealed in the design of
their radars and by the training of air defense personnel to
operate in an ECM environment. These steps serve to
reduce the vulnerability of Soviet air defense radars to
deliberate electronic interference but, nonetheless, Soviet
air defense capabilities would be degraded by suitable ECM
and other penetration aid techniques.

Defense Alert

18. On selected airfields, both in the Soviet Union and
NSWP countries, some fighters and interceptors are held at
varying states of readiness, depending for example, on the
strategic importance of the area and the political climate
at the time. On most strategic air defense airfields in the

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peripheral areas, some aircraft are maintained at readiness 1
 day and night. From the highest state of alert, i.e., 2
 cockpit readiness at the end of the runway, it is expected 3
 that these aircraft 4

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5
 Combat air patrols 5
 in border areas are flown regularly. In time of increased 6
 tension, many aircraft would probably be dispensed. 7

19. SAM sites in general are believed held at a readiness 8
 condition consistent with the availability of warning and the 9
 defensive posture for the respective area. Thus, the 10
 missiles would not normally be activated until alerted by 11
 an early warning net. 12

Logistics and Maintenance 13

20. APVO home bases are believed to have substantial 14
 amounts of on-base Petroleum, Oils, and Lubricants (POL) 15
 storage, and additional POL may be found at APVO dispersal 16
 airfields. However, the stored POL would have to be augmented 17
 during prolonged hostilities. The very large off-base, air- 18
 subordinated POL stocks located at central depots would be 19
 apportioned through the Rear Services Organization. Most APVO 20
 home bases have ammunition and air-to-air missile (AAM) 21
 storage facilities. Known off-base stocks of both POL and 22
 ammunition are generally located near rail lines, the primary 23
 means of delivery to the airfields. Squadron-level aircraft 24
 maintenance and repair are accomplished by elements of the 25
 Aviation Services on the individual operational airfields. 26
 Major overhaul is performed at centralized aircraft main- 27
 tenance and repair facilities scattered throughout the USSR. 28
 This system, which eliminates the need for extensive maintenance 29
 facilities and highly specialized technical personnel and 30
 equipment at each operational airfield, has been effective 31

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in peacetime. However, the lack of specialized personnel
and equipment at the operational level would probably prove
detrimental to APVO maintenance capabilities in any sus-
tained conflict, although it affords flexibility of operations
at dispersal bases.

21. The WP air defense forces can draw on training
aircraft and stored aircraft as a combat reserve(1). Some
trainer aircraft assigned to APVO operational units could
perform combat missions from the outset of hostilities. APVO
could also draw on trainer aircraft in air defense pilot
training schools for use as attrition fillers. Stored
aircraft would not be immediately available, but could be
brought into service after a short period of maintenance.

22. Little is known of PVO Strany SAM logistics and
maintenance procedures. However, sufficient missiles are
believed available, at site and depot storage, to support the
expected high SAM expenditure rates during an initial phase
of hostilities.

NSWP HOMELAND AIR DEFENSESGeneral

23. NSWP Homeland Air Defense forces generally follow
the Soviet pattern of organization. The Homeland Air Defense
forces of GDR, Hungary, and Romania can be considered to
fill the strategic air defense role over their own territory
protecting key national targets. Bulgarian, Czechoslovak,
and Polish Homeland Air Defense forces would provide a
similar defense for their national territories. The latter
countries also have tactical air forces (see Part II -
Section 6). The Homeland Air Defense forces are not expected
to deploy forward with the ground forces.

(1) See Part II - Section 3, Table A 10.

SECRETEarly Warning, Command and Control

24. The NSWP countries have some 170 EW(1) and 65 GCI radar sites utilizing some of the most modern Soviet equipment. Additionally, Soviet forces operate about 60 EW(2) and 40 GCI sites in NSWP countries. Coverage above

[redacted] is complete along the major part of the Allied Command Europe (ACE) border; however, in areas of the GDR and along the Baltic coast there is a capability for tracking of targets [redacted] of the radar. Over considerable areas of the NSWP where terrain is favorable, targets can be detected [redacted]

[redacted] Sightings of many new SQUAT EYE radars with NSWP forces and additional ones with the Soviet forces suggest that a concerted effort is being made by the WP to close gaps and to consolidate the EW and surveillance capability. The communications network includes VHF, UHF and landlines to provide flexibility and reliability.

Weapons Systems25. SAM

a. SA-2. The NSWP countries have deployed and manned about 135 SA-2 sites. These sites are in defense of major cities and important industrial areas, and are part of the peripheral defense of the WP area as a whole. A new GDR SA-2 regiment is under formation in the southwestern area of the GDR. Additional SA-2 systems could be made available to the NSWP countries as the Soviets replace their SA-2 with newer systems.

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- (1) This figure does not include 145 SAM target acquisition radars.
 (2) This figure does not include 110 SAM target acquisition radars.

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b. SA-3. The first SA-3 sites manned by NSWP 1
 personnel were seen in Poland at the end of 1970. They were 2
 located around Warsaw, where to date four battalions are 3
 deployed. Eight new sites have been constructed and 4
 occupied in Poland along the Baltic Sea coast and five have 5
 been constructed in Czechoslovakia, two of which are opera- 6
 tional. Four GDR-manned SA-3 sites are operational, one 7
 is under construction, and more could be expected. 8

26. AAA. The NSWP forces commonly use AAA up to 57 mm, 9
 mostly radar-controlled. AAA of a larger caliber is still in 10
 the inventory of some of the national forces although on a 11
 very limited scale. Some SAM sites, radar sites, and 12
 airfields have been observed with AAA defense, and it is 13
 presumed that this would be common practice in wartime. 14

27. Aircraft. NSWP air forces are composed pre- 15
 dominantly of Soviet fighter aircraft types. They are, 16
 in general, less well-equipped than their Soviet counterparts, 17
 but the numbers of all-weather FISHBED interceptors are 18
 steadily increasing. The NSWP nations have about 1,440 19
 fighters of which about 1,130 are in homeland air defense 20
 units and 310 are in counterair units. At present about 21
 80 percent have an all-weather capability. 22

Logistics 23

28. Logistics practices in the NSWP forces are generally 24
 patterned after that of the Soviet. Each air force has off- 25
 base central POL and ammunition depots. SAM storage 26
 facilities exist to supplement stocks on hand at the SAM 27
 sites. Rail is the usual means of delivery, and most depots 28
 are within close proximity to rail lines. Maintenance 29
 organization and procedures are also similar to those of 30
 the Soviets, with squadron-level maintenance performed on the 31

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individual homebases and major overhaul accomplished at 1
 centralized aircraft maintenance and repair facilities. A 2
 problem likely to affect maintenance capabilities in all NSWP 3
 forces is a shortage of some spare parts. When depleted, 4
 many items must be ordered from the USSR where they are 5
 tightly controlled and generally not readily forthcoming. 6

WARSAW PACT AIR DEFENSE OF FIELD FORCES 7General 8

29. Warsaw Pact field forces will be organized in Fronts 9
 during wartime. Air defense of the Front is the overall 10
 responsibility of the Chief of the Air Defense Troops of 11
 the Front (PVO Voysk). He also will be directly responsible 12
 for ground force air defense systems. The counterair fighters 13
 of tactical air armies (TAAs) will coordinate with and support 14
 the Chief of the Air Defense Troops of the Front as needed 15
 while remaining under the control of the TAA commander. The 16
 NSWP tactical air defense forces have a structure similar to 17
 that of the Soviets and are likely to function in the Front 18
 structure as described above. 19

30. Soviet doctrine is followed by relying on in-depth 20
 defenses, a variety of systems deployed in large numbers, 21
 and a high concentration of fire. The Front air defense 22
 resources tend to fall into four general categories: 23

- a. Counterair fighters. 24
- b. Highly mobile ground force systems. 25
- c. Transportable ground force systems. 26
- d. Mobile command and control, EW, and electronic 27
 warfare equipment. 28

31. The combined effect of these tactical air defense 29
 systems is a complex and effective threat to attacking 30
 aircraft. The SAM/AAA system provides the WP ground 31

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forces a mobile, virtually self-contained capability to 1
 defend against air attack. Frontal Aviation counterair 2
 fighters could provide in-depth defense (within GCI coverage), 3
 conduct offensive counterair operations, fill gaps resulting 4
 from the mobile nature of the conflict, and provide a 5
 flexible reserve should ground force resources be depleted 6
 in combat. Ground based electronic warfare equipment 7
 would be used to attack aircraft avionics and communications 8
 equipment. The mobility, large numbers of systems, redundancy 9
 of coverage and continuing improvement of the overall air 10
 defense network will make the WP defenses increasingly 11
 difficult to neutralize. The WP now can engage targets 12
 at all altitudes, although the low altitude defenses are 13
 generally effective only for point targets. Nonetheless, 14
 for the near term future, the tactical air defense system 15
 will likely continue to be susceptible to ECM, saturation 16
 raids, standoff weapons, and nuclear effects. 17

Early Warning, Command and Control 18

32. The WP tactical air defense weapons are netted 19
 together by a dense and overlapping system of early warning, 20
 acquisition, and GCI radars and command and control systems. 21
 The radar systems give excellent coverage at medium and high 22
 altitudes but experience degradation at low altitudes. 23
 However, in specific areas, mast-mounted systems, better siting, 24
 and improvements to the radars will enhance low altitude 25
 coverage. Almost all of the radar and command and control 26
 systems are mounted on wheeled or tracked vehicles and can 27
 rapidly shift their operating areas. The WP employs HF, VHF, 28
 UHF, and microwave radio links in addition to landlines, to 29

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provide the communication required for the air defense system. 1
 In most areas, ground-to-air data link reporting has been 2
 introduced and the threat of saturation during low-altitude 3
 attack has compelled the WP to expend great effort to improve 4
 performance and capacity of their overall data link systems. 5

33. Under wartime conditions, there would probably 6
 be a variety of systems used to integrate and control SAM 7
 and air systems. Altitude layering, zonal restrictions, time 8
 separation, and IFF could all be used to facilitate weapon 9
 use. The use of zonal restrictions in the area of the 10
 forward edge of the battle area (FEBA) would provide 11
 relatively free fire zones for Soviet ground force air 12
 defense weapons. 13

Weapons Systems 14

34. General. The WP ground forces appear to be attempt- 15
 ing to develop and deploy an organic air defense system capable 16
 of defending the ground forces from air attack, even in the 17
 absence of FA counterair fighter support. This system 18
 provides area defense at medium altitudes, and provides 19
 defense at low altitudes for point as well as some larger 20
 areas due to overlap of point target coverage. The trend 21
 is toward a mobile air defense system which can move at the 22
 pace of battle. 23

35. SAMs. The transportable SA-2 probably will be 24
 phased out eventually in favor of a mobile system. The 25
 SA-4 has already replaced some tactical SA-2s in the GSFG, 26
 and is doing the same in the USSR. The SA-2 is currently 27
 deployed with each of the Soviet Groups of Forces in Hungary 28
 and GDR. The SA-2 is used primarily for defense of relatively 29
 static rear area installations, as it is not sufficiently 30

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mobile to provide continuous support to maneuvering troops. 1
 The transportable SA-3 is deployed at a number of Soviet 2
 airfields in Poland, Hungary, and GDR. 3

36. The SA-4 brigade is organized into three battalions 4
 with three batteries per battalion. The battery is the 5
 basic firing unit and consists of three transporter-erector- 6
 launchers (TELs) which carry two missiles each. The conversion 7
 of an SA-2 regiment to an SA-4 brigade provides three times 8
 the firepower with about a 15 percent increase in manpower. 9
 In addition to providing medium and high altitude defense 10
 of the FEBA, it will probably be retained for front and army- 11
 level area defense. The SA-4 is presently deployed with 12
 some Soviet forces, and initial equipment acquisition and 13
 possible deployment has been made to Czechoslovakia and 14
 East Germany. A new short nose variant of the SA-4 missile 15
 has been observed in the USSR and also in a Czechoslovakian 16
 parade. 17

37. The nucleus of the low altitude, ground-based air 18
 defense system is based on the SA-6, SA-9, and ZSU-23-4 19
 systems. These systems will be further augmented by 20
 deployment of the SA-8. The large number of SA-7, AAA, 21
 and hand-held weapons effectively supplement the other 22
 weapons to provide a point target with a low altitude 23
 screen having a rapid reaction capability. To defeat ECM 24
 and low altitude tactics, the Soviets have introduced optical 25
 tracking for most of these SAM/AAA systems. 26

38. The SA-6 has been observed with the Bulgarian, 27
 Czechoslovakian, Hungarian, and Polish ground forces, as 28
 well as the GSFG, CGF, and SGF. In addition to the proven 29
 combat performance of the SA-6, the system is extremely 30
 difficult to locate in a combat environment. The SA-6 can 31

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be moved rapidly and readied for firing in approximately
15 minutes. A battery consists of a radar and four TELs
with three missiles each. SA-6 regiments are deployed with
some Soviet tank and motorized rifle divisions where they
have replaced the towed 57mm S-60 AAA guns.

39. The mobile SA-8 is a self-propelled, low altitude,
short range system mounted on a wheeled vehicle and fitted
with a radar. It is now being deployed with Soviet ground
forces in the USSR. It should further enhance low-to-medium
altitude coverage for ground force point targets. The SA-8
is believed to be ultimately the replacement for the 57mm
S-60 AAA gun in divisions which do not receive the SA-6.

40. The SA-9 is a low altitude system mounted on the
armored amphibious reconnaissance vehicle BRDM-2. It is
now deployed with all the groups of forces, some Soviet naval
infantry units, the Soviet airborne forces, Polish units and
probably Czech and GDR units. Four IR seeking missiles are
pod mounted on top of the vehicle. Vehicle mounting offers
advantages in command and control, chemical-biological-
radiological (CBR) protection for the crew and the
coordination of fire. Four SA-9 and four ZSU 23-4 are
employed within a mixed missile/gun battery at tank and
motorized rifle regiment level. Some SA-9 are located at
Soviet airfields in Hungary, in conjunction with the SA-3
and may be used for airfield defense or training.

41. The SA-7 is a man-portable SAM which has been most
effective against targets with a speed of less than 700 km/hr
and at altitudes below 3,000 meters. During the October
Middle East War, the SA-7 made close-in attacks against front
line troops hazardous. The SA-7 is being widely distributed
in WP ground force maneuver elements.

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42. AAA. AAA systems complement the SAM weapons, particularly in low altitude air defense. The WP relies heavily on AAA up to 57mm, much of which is radar-controlled, for air defense of ground forces (1). The towed 57mm S-60 AAA gun is still the standard divisional air defense weapon although it is being replaced by the SA-6 or the SA-8 in some Soviet divisions. The proliferation of the combat proven ZSU-23-4 indicates a continuing Soviet interest in improving their AAA capability. Many WP armored fighting vehicles (AFV) are fitted with AA machine guns. It is estimated that the WP and particularly the Soviets maintain a significant stock of various types of AAA weapons in depots or field storage. In addition, provision is made for AAA defense of some static installations, particularly airfields and SAM sites. Also, the WP soldier is trained to utilize his individual or crew-served weapon for air defense. Taken together, these large and small caliber AA weapons establish a density of firepower which makes low-altitude operations over the FEBA difficult. In addition to downing aircraft, they have the effect of forcing them into the more lethal field of the SAMs and fighter aircraft.

43. Aircraft. (See Part II - Section 6) The counterair fighters of the Soviet Tactical Air Armies and the NSWP Tactical Air Forces would be used for air defense or field forces. For this mission the air army would use aircraft for attacks on enemy airfields, for engagements of enemy aircraft as far forward as possible, and where necessary for the immediate defense of ground forces. The goal, in any event, will be the achievement of at least local air superiority

(1) See Part II - Section 3.

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over the battlefield. The FISHBED and increasing numbers of
 FLOGGER are the primary counterair fighters in the WP. The
 FISHBED probably does not have a highly effective intercept
 capability at low altitudes (below 500m). However, the
 FLOGGER is believed to have a limited capability to detect,
 track, and engage targets flying below the interceptor
 altitude.

Electronic Warfare

44. The WP will use electronic warfare as an integral
 part of its tactical air defense system. The WP has various
 types of vehicle-mounted electronic warfare equipment. This
 includes noise and deception jamming systems as well as
 intelligence collection systems for electronic detection and
 other purposes. Active and passive jammers would be used to
 interfere with attacking aircraft avionics, particularly
 radars, and communication systems. The equipment is likely
 to be widely deployed and would be used in defense of all
 important targets. The large numbers of radar, frequency
 diversity, and operator training combine to give the WP
 a certain inherent ECCM capability. Despite this, the WP
 is believed to be susceptible to sophisticated ECM operations.

Logistics

45. The WP forces probably have stores of SAMs and
 AAA ammunition at storage sites in the NSWP countries. These
 stores are probably sufficient to sustain WP forces during
 the initial stages of a conflict even though an extremely
 high expenditure rate of munitions is expected. Resupply
 under combat conditions from depot stocks could be done by
 helicopters or ground vehicles. SAM logistics could become
 a problem if the period of hostilities is prolonged or
 involves rapid troop movements. Additional stocks are

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available in the USSR. Large amounts of AAA are in storage
and in military depots in the USSR.

46. Refer to Part II - Section 6, Air Forces, for
Frontal Aviation logistics.

TRAINING

47. APVO operates two training schools which provide a
general engineering education and military training, as well
as pilot training, during the 4-year curriculum. Newly
graduated pilots are assigned to operational units for
further training. Unit training is characterized by
repetitive missions with little or no deviation from a
standard syllabus. , Strict discipline is enforced, which
insures meeting of training requirements but allows little
in the way of pilot initiative, realistic aerial combat
maneuvers, and individual target acquisition without close
ground radar control. Live air-to-air missile firing is
regularly practiced. See Part II - Section 6 for further
details of WP pilot training.

48. The ground force air defense personnel train
extensively in all aspects of the air defense problem. They
continually exercise against simulated and real targets with
emphasis on an ECM/ECCM environment. Mobility and all-weather
training are included in their training syllabus which has
generally resulted in a high level of readiness for these
forces.

PASSIVE DEFENSES

49. An important part of the WP strategic and tactical
air defense is passive defensive systems and measures. These
include hardening, dispersal, and use of dummy
equipment. Camouflage can be carried out by laying down
smokescreens, setting up corner reflectors to confuse aircraft

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radar systems, and using various deceptive paints and covers. 1
Furthermore, SAM sites no longer operational can be used for 2
deception. 3

50. Hardened aircraft shelters have been provided at 4
almost half of the APVO bases particularly those located along 5
the periphery of the Soviet Union. The PVO interceptor force, 6
as a whole, however, is not as extensively protected at 7
bases in the interior as their counterparts in FA. Those 8
interior bases without shelters in APVO are equipped with 9
open aircraft revetments. The apparent lack of hardened 10
shelters at APVO bases, however, is explained in part by 11
expected APVO dispersal tactics and the fact that many bases 12
are beyond the range of enemy tactical aircraft. In all 13
other respects, hardened aircraft shelters for APVO are not 14
markedly different from those of FA discussed in Section 6. 15
As in FA, construction programs for hardening of POL storage, 16
command and control, and other facilities are continuing. 17

STRENGTHS AND WEAKNESSES 18

51. The great strength of WP strategic and tactical air 19
defenses lies in the capability and number of systems deployed, 20
the commonality of equipment, general standardization of 21
operational procedures, and the effectiveness of the newer 22
systems. Within the USSR, aircraft and missiles are deployed 23
to defend against the entire air threat. However, the PVO 24
Strany system has no effective defense against sophisticated 25
ASMs, such as SRAM, once the ASM is launched. The FOXBAT and 26
SA-5 may have some capability against HOUND DOG type ASMs 27
flying at medium to high altitudes. Other SAM systems may 28
have a marginal capability under favorable circumstances 29
against ASM of the HOUND DOG type. 30

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52. In a defense environment not subject to defense suppression, current APVO fighters and SAMs are capable of inflicting heavy losses on aircraft at medium and high altitudes. Except at certain point defended targets, defenses in the USSR will not be effective against aircraft operating at low and very low altitudes. The PVO Strany system in most areas cannot provide continuous low-altitude tracking. Soviet reliance on close GCI and current aircraft weapon system limitations also restrict interceptor defense capabilities at low altitudes.

53. The NSWP air defense forces provide an additional barrier to the West, which provides an additional depth to defense of the USSR. However, NSWP national air defense forces, in general, are less effective than those of the Soviets.

54. The WP has a significant ECCM capability by virtue of the large number and variety of radars deployed. Nonetheless, the system is believed to be vulnerable to ECM, saturation attacks, and standoff weapons, particularly at night or in conditions of bad visibility.

55. The air defense system protecting the ground forces presents an effective threat at all tactical altitudes: defense against aircraft at low-altitude is limited to point targets except where defenses overlap. The WP forces in the NSWP countries, particularly those facing the NATO Central Region, have a virtually complete medium to high altitude air defense envelope as well as large areas of low-altitude coverage due to the overlap of point target coverages. The mobility and concentration of firepower available to the Soviet ground forces, and to a lesser extent the NSWP ground forces, provide a dense and flexible air defense cover. This

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system is capable of a massive rate of fire, particularly at low and medium altitudes. The system may be susceptible to logistics problems and possible local weapon exhaustion due to the anticipated high rates of fire, especially during mobile warfare. In the NSWP countries, the density of air movement is likely to be extremely high, and in the case of a fluid ground situation, the successful integration of the various national and Soviet air and ground defense elements will be difficult. It probably will be approached by strictly separating fighter and ground based air defense on the basis of established engagement zones. Although not commonly exercised, procedures for autonomous operation by SAM and air units exist. If the Soviets attempt to maintain a strong centralized control of the tactical air battle, their overall effectiveness will probably suffer.

FUTURE DEVELOPMENTS AND TRENDS

PVO Strany

56. PVO Strany will probably emphasize qualitative improvements during the next 5 years:

a. Soviet air surveillance and control forces will continue to have good detection and tracking capabilities against aircraft at medium and high altitudes. It is likely that the Soviets will continue to improve radars and techniques specifically designed to counter low-altitude penetration. Although additional deployment of radars on towers will enhance coverage in limited areas, little Soviet improvement in ground-based continuous tracking capability at low altitude for large areas of the USSR is foreseen in the near future. Deployment of new AWACS aircraft with a look-down capability over-land represents the best potential solution for large area coverage and tracking, but this development is unlikely

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until the early 1980s. It is likely that the Soviet will attempt to force attackers to fly at higher altitudes by using ECM against their terrain-avoidance radars. It is reasonable to expect further Soviet attempts to improve the capacity, flexibility, and security of air defense command and control communications, thereby permitting improved coordination of interceptor and SAM operations. Continued efforts to harden command and control facilities at regional headquarters and at operational sites are also expected.

b. Problems of intercepting and destroying strategic attack aircraft at low altitudes will remain formidable and are unlikely to be overcome in the near future. Despite probable improvements to SAM systems, their limited range at very low altitudes would require such a large number of systems as to preclude their deployment as area defense systems, except in very special circumstances. Given the limited capability of the SA-1 system, it will probably be phased out by the early 1980s.

c. PVO Strany is currently seeking advances in the low-altitude capability of its current interceptor force. Modernization of the fighter defenses, e.g., the increasing use of automation and fighters equipped with mixed air-to-air missiles (AAM), has improved effectiveness at medium and high altitudes, but this has not solved the problem at low altitude. The interceptor force effectiveness will improve as more FLAGON E are deployed and possibly new aircraft are added to APVO. FLOGGER, believed to have a limited capability to detect, track, and engage targets flying below the interceptor altitude, is a candidate as a new low-altitude APVO interceptor and could begin deployment in 1976. A variant of some other existing aircraft is also possible during the

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late 1970s. AAM improvements are expected; it also is likely that the Soviets will develop a look-down AI radar and compatible shoot-down AAM which are better than the capability attributed to FLOGGER. APVO interceptor strength has declined gradually over the years, and this trend is expected to continue as obsolescent aircraft are replaced by smaller numbers of more capable aircraft.

d. Emphasis will remain on destruction of ASM carriers before weapon launch as no effective defense against sophisticated ASMs in flight is likely in the near future.

e. It is not likely that the Soviets will be able to develop and deploy any exotic new weapons, such as a laser weapon capable of downing an aircraft, during the next 5 years. The Soviets are conducting research on OHD radars which, if successful, may be able to provide a significant increase in early warning time against aircraft approaching at any altitude several hundred miles from the Soviet border.(1)

NSWP Homeland Air Defense

57. The NSWP National Air Defense forces are expected to improve qualitatively by addition of new aircraft, e.g., late model FISHBED and probably FLOGGER, additional modern SAMs, as well as upgraded and new radar systems. It is also expected that command and control systems and procedures will evolve toward improved integration of NSWP and Soviet strategic defense forces.

WP Air Defense of the Field Forces

58. WP air defense of the field forces will likely continue to be based on a dual system of aircraft and ground-based equipment. The trend of quantitative and qualitative

(1) See Part II - Section 3.

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improvement of these forces is expected to continue. Emphasis will likely be placed on ECCM, mobility, and firepower. The SA-8 is expected to further increase the WP mobile low altitude defense capabilities probably achieving a minimum capability [REDACTED] Further SA-4, SA-6, SA-7, SA-8, SA-9, ZSU-23-4, and mobile radar system deployments are expected in Soviet forces, pointing toward a completely mobile air defense. The NSWP forces will receive limited numbers of these systems also. The counterair capabilities of the Frontal Aviation fighter force will also improve as FLOGGER deployment continues. A new Soviet counterair aircraft could enter service in the early 1980s. In tactical as strategic, increasing use of ECM against bombing and terrain-avoidance radars is likely. Refined electro-optical sighting aids will continue to be deployed for ECCM purposes, and a laser target designator could be used in the late 1970s to guide semiactive, homing-type missiles.

OTHER EUROPEAN COMMUNIST AIR DEFENSESAlbania

59. Fighter defense is provided by approximately 100 aircraft (FAGOT/FRESCO/FARMER/FISHBED). Chinese military aid, which has included the delivery of both FARMER and FISHBED-type aircraft as well as training personnel, has improved the air defense capability of this force. Many of the aircraft originally supplied by the USSR are old and the serviceability rate is estimated to be poor. The EW and control function is provided by older generation Soviet equipment whose capability is thought to be low due to age and shortages of spares. Presently, there are four operational SA-2 sites in Albania even though eight systems were provided,

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three by the USSR and five by the Peoples Republic of China.

Yugoslavia

60. The air defense capability in Yugoslavia, based on the Soviet pattern, is considered to be good. Of about 120 air defense aircraft, essentially of Soviet origin, 75 have all-weather capability (FISHBED D/F/Jx), the remainder being day fighters. EW and control are achieved by using Soviet radars, French radars, and a progressively decreasing number of obsolescent United States radars.

61. There are seven operational SA-2 sites with one additional site under construction. At least four SA-3 battalions, equipped with four rail launchers, have recently been observed with at least two battalions (sites) being deployed along the northern border opposite Trieste. Additionally, SA-6 and SA-7 SAMs have been introduced into the ground forces. Coordination of these air defenses is generally effective, and continuous efforts are being made towards improvement of deficiencies.

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SECTION 1

GROUND FORCES TABLES

TABLE G 1 DISTRIBUTION OF SOVIET MAJOR LINE UNITS BY
 CATEGORY AND TYPE (MID-1976)

TABLE G 2 DISTRIBUTION OF NSWP MAJOR LINE UNITS BY
 CATEGORY AND TYPE (MID-1976)

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TABLE G.1

DISTRIBUTION OF SOVIET MAJOR LINE UNITS BY CATEGORY AND TYPE (MID-1976) (1)

GROUPS OF FORCES AND MILITARY DISTRICTS	TANK DIVISIONS			MOTORIZED RIFLE DIVISIONS			AIRBORNE DIVISIONS			CATEGORY TOTALS			DIVISION TOTALS
	CAT A	CAT B	CAT C	CAT A	CAT B	CAT C	CAT A	CAT B	CAT C	CAT A	CAT B	CAT C	
GDR (GSFG)	10	-	-	10	-	-	-	-	-	20	-	-	20
POLAND (NGF)	2	-	-	-	-	-	-	-	-	2	-	-	2
CZECHOSLOVAKIA (CGF)	2	-	-	3	-	-	-	-	-	5	-	-	5
HUNGARY (SGF)	2	-	-	2	-	-	-	-	-	4	-	-	4
NORTHWESTERN USSR:													
LENINGRAD MD	-	1	-	2	1	4	1	-	-	3	2	4	9
WESTERN USSR:													
BALTIC MD	-	3	-	-	1	3	1	1	1	1	4	4	9
BELOUSSIAN MD	1	7	-	1	-	1	1	-	-	3	7	1	11
CARPATHIAN MD	1	2	-	-	5	3	-	-	-	1	7	3	11
SOUTHWESTERN USSR:													
ODESSA MD	-	-	-	-	3	4	1	-	-	1	3	4	8
SOUTHERN USSR:													
TRANSCAUCASUS MD	-	-	-	-	3	8	1	-	-	1	3	8	12
NORTH CAUCASUS MD	-	1	-	-	-	5	-	-	-	-	1	5	6
TURKESIAN MD	-	-	-	-	1	4	1	-	-	1	1	4	6
WEST CENTRAL USSR:													
MOSCOW MD	-	2	-	-	1	2	1	-	-	1	3	2	6
KIEV MD	-	6	-	-	-	4	-	-	-	-	6	4	10
EAST CENTRAL USSR:													
URAL MD	-	1	-	-	-	2	-	-	-	-	1	2	3
VOLGA MD	-	-	-	-	-	3	-	-	-	-	-	3	3
EASTERN USSR:													
CENTRAL ASIAN MD	1	-	-	1	3	2	-	-	-	2	3	2	7
SIBERIAN MD	-	1	-	-	1	3	-	-	-	-	2	3	5
TRANSBAIKAL MD	1	1	-	3	1	4	-	-	-	4	2	4	10
FAR EAST MD	1	-	-	4	6	8	-	-	-	5	6	8	19
MONGOLIA	1	-	-	1	-	-	-	-	-	2	-	-	2
TOTALS	22	25	-	27	26	60	7	1	1	56	51	61	168

(1) For details of Naval Infantry see Part II - Section 5.

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TABLE G 2
DISTRIBUTION OF NSWP MAJOR LINE UNITS BY CATEGORY AND TYPE (MID-1976) (1)

	TANK DIVISIONS			MOTORIZED RIFLE DIVISIONS			AB DIV	SLD	MTN BDE	DIV/BDE CATEGORY TOTALS			DIV/BDE TOTAL	PERSONNEL TOTALS
	CAT A	CAT B	CAT C	CAT A	CAT B	CAT C				CAT A	CAT B	CAT C		
GDR	2	-	-	4	-	-	-	-	-	6	-	-	6	
POLAND	5	-	-	3	3	2	1	1	-	10	3	2	15	
CZECHOSLOVAKIA	3	-	2	4	-	1	-	-	-	7	-	3	10	
HUNGARY	1	-	-	3	-	2	-	-	-	4	-	2	6	
ROMANIA	2	-	-	5	3	-	-	-	2	7+	3	-	10+	
BULGARIA	5	-	-	5	1	2	-	-	-	2 Bdes	1	2	8+	
TOTALS	13+	-	2	24	7	7	1	1	2	39+	7	9	55+	
	5 Bdes									7 Bdes			7 Bdes	

(1) For details of amphibious units see Part II - Section 5

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SECTION 2

NAVAL FORCES TABLES

- Table N 1 Estimated OOB of Soviet Submarines by Fleets (Mid-1976 to Mid-1978) and Total OOB (Mid-1981 and Mid-1985)
- Table N 2 Estimated OOB of Soviet Submarine Support Ships by Fleets (Mid-1976)
- Table N 3 Estimated OOB of Soviet Surface Combatants by Fleets (Mid-1976 to Mid-1978) and Total OOB (Mid-1981 and Mid-1985).
- Table N 4 Estimated AOB of Soviet Naval Aviation by Fleets (Mid-1976 and Mid-1979) and Total AOB (Mid-1982 and Mid-1985)
- Table N 5 Estimated OOB of Non-Soviet Warsaw Pact Navies by Countries (Mid-1976)
- Table N 6 Estimated AOB of Non-Soviet Warsaw Pact Navies by Countries (Mid-1976)
- Table N 7 Estimated OOB of Warsaw Pact Amphibious Ships, Landing Craft, and Air Cushion Vehicles by Fleets/Countries (Mid-1976)
- Table N 8 Merchant Shipping of the Warsaw Pact - 1 Jan 1976
- Table N 9 Fishing Fleets of the Warsaw Pact - 1 Jan 1976
- Table N 10 Estimated Naval Hydrographic/Oceanographic Fleets of the Warsaw Pact (Mid-1976)

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TABLE N 1

ESTIMATED OOB OF SOVIET SUBMARINES BY FLEETS (MID-1976 TO MID-1978) AND TOTAL OOB (MID-1981 AND MID-1985)
(Additional submarines estimated to be in reserve are shown in parenthesis)

CLASS	TYPE	No. MISSILE TUBES	Mid-1976				Mid-1977				Mid-1978				Mid-1981		Mid-1985	
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	TOTAL
<u>BALLISTIC MISSILE NUCLEAR</u>																		
DELTA OR SUCCESSOR YANKEE HOTEL II HOTEL III TOTAL	SSBN	12/16(ii)	15	-	-	3	18	19	-	-	5	24	19	-	-	7	26)
	SSBN	16	22	-	-	12	34	22	-	-	12	34	22	-	-	12	34)62(ii)
	SSBN	3	4	-	-	2	6	-	-	-	-	-	-	-	-	-	-)
	SSBN	6	1	-	-	-	1	1	-	-	-	1	1	-	-	-	1	1
	SSBN		42	-	-	17	9	42	-	-	17	59	42	-	-	19	61	63(ii)
<u>BALLISTIC MISSILE DIESEL</u>																		
GOLF I GOLF II OR OTHER CONVERSIONS TOTAL	SSB	3	2	-	-	5	7	2	-	-	5	7	2	-	-	5	7	7
	SSB	3	8	-	-	7	15	8	-	-	7	15	8	-	-	7	15	15
	SSB		10	-	-	12	22	10	-	-	12	22	10	-	-	12	22	22
<u>CRUISE MISSILE NUCLEAR</u>																		
PAPA OR NEW CLASS CHARLIE I CHARLIE II ECHO II TOTAL	SSGN	8/UNK	1	-	-	-	1	2	-	-	-	2	4	-	-	-	4	10
	SSGN	8	8	-	-	3	11	7	-	-	4	11	6	-	-	5	11	11
	SSGN	8	3	-	-	-	3	4	-	-	-	4	5	-	-	-	5	7
	SSGN	8	15	-	-	14	29	15	-	-	14	29	15	-	-	14	29	25(4)
	SSGN		27	-	-	17	44	27	-	-	18	45	27	-	-	19	46	61(4)

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CLASS	TYPE	No. MISSILE TUBES	Mid-1976				Mid-1977				Mid-1978				Mid-1981		Mid-1985 TOTAL	
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC		TOTAL
<u>CRUISE MISSILE DIESEL</u>																		
	SSG	4	12	-	-	4	16	12	-	-	4	16	12	-	-	4	16	10(6)
	SSG	4	-	(1)	1(1)	(1)	2(3)	-	(2)	1(1)	(1)	1(4)	-	(2)	1(1)	(1)	1(4)	-
	SSG	2	-	-	1(1)	1(1)	2(2)	-	-	1(1)	(2)	1(3)	-	-	(2)	(1)	(3)	-
	TOTAL		12	(1)	2(2)	5(2)	20(5)	12	(2)	2(2)	4(3)	18(7)	12	(2)	1(3)	4(2)	17(7)	10(6)
<u>ATTACK NUCLEAR</u>																		
	SSN	3	-	-	-	-	3	4	-	-	-	4	4	-	-	-	4	4
	SSN	13	-	-	4	17	13	-	-	6	-	19	14	-	-	8	22	31
	SSN	3	-	-	-	-	3	4	-	-	-	4	5	-	-	-	5	8
	SSN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
	SSN	9	-	-	4	13	9	9	-	-	4	13	9	-	-	4	13	11(2)
	SSN	28	-	-	5	13	41	30	-	-	5	45	32	-	-	5	5	4(1)
	TOTAL		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62(11)
<u>ATTACK, LONG RANGE, DIESEL</u>																		
	SS	3	-	2	-	5	5	5	-	2	-	7	6	-	3	-	9	13-15
	SS	38	2	-	20	60	38	2	-	20	60	36(2)	2	-	20	58(2)	49	36
	SS	4(8)	2(2)	-	4(5)	10(15)	2(10)	1(3)	-	2(7)	5(20)	5(20)	(10)	(3)	-	(7)	-(20)	(10)
	TOTAL LONG RANGE	45(5)	4(2)	2	24(5)	75(15)	45(10)	3(3)	2	22(7)	72(20)	42(12)	2(3)	3	20(7)	67(22)	52-54(10)	56

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TABLE N 1 (concluded)

CLASS	TYPE	No. MISSILE TUBES	Mid-1976				TOTAL	Mid-1977				TOTAL	Mid-1978				TOTAL	Mid-1981		TOTAL
			NOR	BAL	BLA	PAC		NOR	BAL	BLA	PAC		NOR	BAL	BLA	PAC		TOTAL	TOTAL	
<u>ATTACK, MEDIUM RANGE, DIESEL</u>																				
BRAVO	SS		1	-	2	1	4	1	-	2	1	4	1	-	2	1	4	4	4	
ROMEO (iii) (iv)	SS		6(2)	2	2	-	10(2)	6(2)	2	2	-	10(2)	6	(1)	(1)	-	8(4)	2(8)	-	
WHISKEY (iv)	SS		10/	10/	10/	10/	40/	5/	5/	5/	5/	20/	2/	2/	3/	3/	10/	(15)	-	
TOTAL MEDIUM RANGE	SS		(10)	(25)	(15)	(15)	(65)	(10)	(20)	(15)	(15)	(60)	(10)	(20)	(15)	(15)	(60)	(15)	-	
		17/	12/	14/	11/	54/	12/	7/	9/	6/	34/	9/	3/	6/	4/	22/	6(23)	4	4	
			(12)	(25)	(15)	(15)	(67)	(12)	(20)	(15)	(15)	(62)	(12)	(21)	(16)	(15)	(64)			
<u>ATTACK, SHORT RANGE, DIESEL</u>																				
QUEBEC (iv)			-	(5)	(4)	-	(9)	-	(5)	(4)	-	(9)	-	(5)	(4)	-	(9)	-	-	
TOTAL NUCLEAR POWERED			97	-	-	47	144	100	-	-	50	150	104	-	-	55	159	180(2)	186(15)	
TOTAL DIESEL POWERED			84/	17/	18/	52/	171/	79/	10/	13/	44/	146/	73/	5/	10/	40/	128/	96-98/	92(6)	
			(20)	(33)	(21)	(22)	(96)	(22)	(30)	(21)	(25)	(98)	(24)	(31)	(23)	(24)	(102)	(37)		
GRAND TOTAL			181/	17/	18/	99/	315/	179/	10/	13/	94/	296/	177/	5/	10/	95/	287/	276-278/	278/	
			(20)	(33)	(21)	(22)	(96)	(22)	(30)	(21)	(25)	(98)	(24)	(31)	(23)	(24)	(102)	(37)	(21)	

- (i) It is estimated that a second DELTA successor class may have about 20 missile tubes.
- (ii) The composition of the SLEM force in the 1980s cannot be estimated with confidence. The total of 62 SSBN is based upon the 1972 SAL Interim Agreement limits.
- (iii) The total number of FOXTROT, ZULU, and ROMEO class submarines for the Northern and Baltic fleets represents an estimated average OOB. The actual disposition of units may vary slightly, from time to time, due to interfleet transfers for refit/overhaul.
- (iv) The rate at which ROMEO, WHISKEY, and QUEBEC classes will be phased out is uncertain.

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TABLE N 2

ESTIMATED OOB OF SOVIET SUBMARINE
SUPPORT SHIPS BY FLEETS (MID-1976)

CLASS	TYPE	NOR	BAL	BLA	PAC	TOTAL
<u>SUBMARINE TENDERS</u>						
MOD DNEPR	AS	1	-	-	1	2
UGRA	AS	4	2	-	1	7
DON	AS	2	-	2	2	6
DNEPR	AS	2	-	-	1	3
WM BAUER	AS	2	-	-	-	2
TOTAL	AS	11	2	2	5	20
<u>SMALL SUBMARINE TENDERS</u>						
TOMBA	ASL	1	-	-	-	1
ATREK	ASL	3	-	-	2	5
MISCELLANEOUS	ASL	2	-	-	-	2
TOTAL	ASL	6	-	-	2	8
<u>REPAIR SHIPS (i)</u>						
AMUR	AR	5	3	3	3	14
OSKOL	AR	4	2	3	3	12
TOVDA	AR	1	-	-	-	1
MISCELLANEOUS	AR	1	-	2	1	4
TOTAL	AR	11	5	8	7	31
<u>SUBMARINE RESCUE SHIPS</u>						
NEPA	ASR	1	-	-	-	1
PRUT	ASR	2	1	3	3	9
EX-T-58	ASR	2	6	4	1	13
TOTAL	ASR	5	7	7	4	23
<u>MISSILE SUPPORT SHIPS</u>						
MP-6	AEM	1	-	-	2	3
AMGA	AEM	1	-	-	-	1
LAMA	AEM	2	-	-	2	4
TOTAL	AEM	4	-	-	4	8

(i) Repair ships are not employed exclusively as submarine support ships, but they have this capability.

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TABLE N 3

ESTIMATED OOB OF SOVIET SURFACE COMBATANTS BY FLEETS (MID-1976 TO MID-1978) AND TOTAL OOB (MID-1981 AND MID-1985)
 (Black Sea OOB includes the Caspian Flotilla)
 (additional ships estimated to be in reserve are shown in parenthesis)

CLASS	TYPE	No. MISSILE LNCHRS. SSM SAM	Mid-1976			Mid-1977			Mid-1978			Mid-1981		Mid-1985 TOTAL	
			NOR	BAL	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL		BLA
AIRCRAFT CARRIERS	CVSG	UNK	-	-	1	-	-	1	-	-	2	-	-	2	4
SAM HELICOPTER CRUISERS	CHG	4	-	-	2	-	-	2	-	-	2	-	-	2	2
SSM/SAM CRUISERS	KARA OR SUCCESSOR (i)	8	1	-	3	-	2	-	3	-	5	2	-	3	8
		4	3	-	1	4	3	-	-	1	4	3	-	-	4
	KRESTA II OR SUCCESSOR(1)	8	5	1	-	2	8	6	1	-	2	9	6	1	12
		4	-	-	2	4	-	-	2	2	4	-	-	2	4
	KYNDA	8	2	-	-	2	4	11	1	5	5	22	11	1	28
		TOTAL		9	1	5	5	20	11	1	5	5	22	11	1
CRUISERS	CLCP	2	-	-	1	2	-	-	1	1	2	-	-	1	2
		2	-	-	1	1	-	1	-	1	-	1	-	-	1
	CL	2	2	1	2(1)	7(2)	2	1	2(1)	2(1)	7(2)	2	1	2(1)	7(2)
		CL	1	1(1)	-	-	1(1)	-	1(1)	-	-	1(1)	-	1(1)	-

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TABLE N 3 (continued)

CLASS	TYPE	No. MISSILE LNCHRS. SSM SAM	Mid-1976				Mid-1977				Mid-1978				Mid-1981 TOTAL	Mid-1985 TOTAL				
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL			BLA	PAC	TOTAL	
KIROV	CL		-	-	-	-	-	-	-	-	-	-	-	-	-	-				
TOTAL	CLCP/CLG/CL		2	2(1)	4(1)	3(1)	11(3)	2	2(1)	4(1)	3(1)	11(3)	2	2(1)	4(1)	3(1)	11(3)	9(4)	6(3)	
MISSILE DESTROYERS																				
NEW CLASS																				
KRIVAK	DLGM/DDGM	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	
		4	4	8	-	-	12	4	8	1	-	13	5	7	20	1	15	20	20	
KASHIN	DLGM	4	4	2	2	-	5	1	3	3	-	7	1	3	4	1	9	12	12	
		4	1	0(1)	7(1)	4	12(2)	-	(1)	6(1)	4	10(2)	-	0(1)	5(1)	3	8(2)	7	7	
KANIN	DDG	2	4	1	-	2	7	4	1	-	3	8	4	1	-	3	8	8	5(3)	
KRUPNY	DDGS	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	
MOD KILDIN	DDGS	4	-	-	3	-	3	-	-	3	-	3	-	-	3	-	3	3	3	
KILDIN	DDGS	1	-	-	-	1	1	-	-	-	1	1	-	-	-	1	1	3	3	
SAM KOTLIN	DDG	2	2	1	3	2	8	2	1	3	2	8	2	1	3	2	8	8	6(2)	
TOTAL	DLGM/DDGM/DDGSP/DLG/DDGS/DDG/		12	12(1)	15(1)	10	49(2)	11	13(1)	16(1)	10	50(2)	12	12(1)	17(1)	11	52(2)	59	62(5)	
DESTROYERS																				
KOTLIN	DD		2	3	3(1)	8(1)	16(2)	2	3	3(1)	8(1)	16(2)	2	3	2(1)	7(3)	14(4)	12(2)	8(2)	

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TABLE N 3 (continued)

CLASS (ii)	TYPE	No. MISSILE INCHES SSM SAM	Mid-1976				Mid-1977				Mid-1978				Mid-1981		Mid-1985	
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	TOTAL
SKORYY	DD		4(4)	5(4)	5(5)	4(5)	18(18)	3(4)	4(4)	5(5)	4(5)	16(18)	3(4)	3(4)	5(4)	3(4)	14(16)	-
	DD		6(4)	8(4)	8(6)	12(6)	34(20)	5(4)	7(4)	8(6)	12(6)	32(20)	5(4)	6(4)	7(5)	10(7)	28(20)	8(2)
<u>DESTROYER ESCORTS</u>																		
NEW CLASS																		
RIGA	DE		-	-	-	-	-	-	-	1	-	1	-	-	3	-	3	24
	DE		4(3)	6(2)	8(2)	12(2)	30(9)	4(4)	5(2)	6(2)	10(2)	25(10)	3(4)	4(2)	5(2)	8(2)	20(10)	(5)
KOLA	DE		1	-	(1)	-	(1)	-	-	(1)	-	(1)	-	-	(1)	-	(1)	-
	DE		-	14	6	-	20	-	14	6	-	20	-	14	6	-	20	12(8)
PETYA I and III	DE		8	2	6	6	22	7	2	4	6	19	7	2	4	6	19	13(6)
	DE		13	-	4	10	27	13	-	4	10	27	13	-	4	10	27	26(1)
TOTAL																		
			26(3)	22(2)	24(3)	24(2)	100(10)	24(4)	21(2)	21(3)	26(2)	92(1)	23(4)	20(2)	22(3)	24(2)	89(11)	75(20)
<u>COASTAL ESCORTS</u>																		
GRISHA OR SUCCESSOR (i) PCEP/PCE	2/-		10	-	10	6	26	10	2	10	7	29	12	4	10	8	34	40
	PCE		15	20	16	14	65	15	20	16	14	65	14	18	15	13	60	50
TURYA OR SUCCESSOR	PCH		3	8	6	13	30	4	10	8	15	37	5	12	9	17	43	50
	PCS		-	29	10	29	68	-	30	10	30	70	-	30	10	30	70	70
SO 1	PCS		-	17	12	6	35	-	7	5	3	15	-	3	2	-	5	-
	PCEP/PCE/PCH/PCS		28	74	54	68	224	29	69	49	69	216	31	67	46	68	212	210

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TABLE N 3 (continued)

CLASS (ii)	TYPE	No. MISSILE LNCHRS. SSM SAM	Mid-1976				Mid-1977				Mid-1978				Mid-1981			
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	
<u>MISSILE PATROL CRAFT</u> NANUCHKA OR SUCCESSOR (i)	PGGP	6 2	2	5	8	1	16	2	6	8	2	18	3	7	8	3	21	24
	PTFG	4	17	16	10	29	72	15	16	10	29	70	15	16	10	27	68	44
	PTFG	4	9	18	6	15	48	9	18	6	15	48	9	18	6	15	48	48-64
	TOTAL PGGP/PTFG		28	39	24	45	136	26	40	24	46	136	27	41	24	45	137	116-132
<u>TORPEDO PATROL CRAFT</u> SHERSHEN OR SUCCESSOR	PT		17	15	10	8	50	17	15	10	8	50	17	15	10	8	50	40
	PT		8	12	10	10	40	6	10	9	10	35	-	7	6	7	20	-
	TOTAL PTF/PT		25	27	20	18	90	23	25	19	18	85	17	22	16	15	70	40
<u>HIGH SPEED CRAFT</u> SLEPEN PCHELA	PGM		-	-	1	-	1	-	-	1	-	1	-	-	1	-	1	1
	PBH		-	13	7	-	20	-	13	7	-	20	-	12	6	-	18	12
	TOTAL PGM/PBH		-	13	8	-	21	-	13	8	-	21	-	12	7	-	19	13
<u>FLEET MINESWEEPERS (iii)</u> NATYA OR SUCCESSOR YURKA T.58	MSF		6	8	7	3	24	7	9	8	4	28	8	10	9	5	32	40
	MSF		11	13	10	11	45	11	13	10	11	45	-	13	10	11	45	45
	MSF		4	-	-	11	15	3	-	-	10	13	2	-	-	10	12	-

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TABLE N 3 (concluded)

CLASS (ii)	TYPE	No. MISS ILE LNCHRS. SSM SAM	Mid-1976					Mid-1977					Mid-1978					Mid-1981	
			NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	NOR	BAL	BLA	PAC	TOTAL	TOTAL	
T.43	MSF		15	20	10	20	65	10	20	10	20	60	10	15	5	20	50	10	
	MSF		36	41	27	45	149	31	42	28	45	146	31	38	24	46	139	95	
SMALL MINESWEEPERS (iii)																			
SASHA	MSM		-	9	3	-	12	-	8	2	-	10	-	5	2	-	7	-	
T.301	MSM		-	2	1	-	3	-	-	-	-	-	-	-	-	-	-	-	
SONYA OR SUCCESSOR	MSC		4	8	-	4	16	4	10	4	6	24	6	12	6	8	32	48	
VANYA	MSC/MHC		17	23	16	17	73	17	23	16	17	73	17	23	16	17	73	65	
ZHENYA	MSC		-	3	-	-	3	-	3	-	-	3	-	3	-	-	3	3	
TOTAL	MSM/MHC/MSC		21	45	20	21	107	20	43	24	19	110	23	43	24	25	115	116	

(i) Successor class may not have the same missile system or number of missile launcher

(ii) OOB for the various classes of coastal escorts, patrol and high speed craft, and minesweepers cannot be estimated with confidence beyond 1981.

(iii) About 15 percent of the total number of fleet minesweepers and 10 percent of the small minesweepers are likely to be in a reserve status.

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TABLE N 4
ESTIMATED AOB OF SOVIET NAVAL AVIATION BY FLEETS
(MID-1976 AND MID-1979) AND TOTAL AOB (MID-1982 AND MID-1985) (1)

	MID-1976			MID-1979			TOTAL	MID-1982	MID-1985				
	NORTH	BALTIC	PACIFIC	NORTH	BALTIC	BLACK(ii)							
BOMBER	STRIKE SUBSONIC	65	72	56	100	293 (iii)	55	66	45	84	250	205	120
	STRIKE SUPERSONIC	-	24	40 (iv)	-	64	15 (iv)	38	42 (iv)	-	95 (v)	150 (vi)	190 (vii)
	TANKERS	23	13	15	28	79	20	15	20	25	80	80	65
RECCE	SUBSONIC	56	9	6	53	124 (viii)	55	20	10	50	135 (viii)	100 (viii)	80 (viii)
	SUPERSONIC	-	3	3	-	6	-	3	3	-	10	15	20
	HELICOPTERS	6	5	7	8	26	8	5	10	7	30	25	10
ASM PATR	FIXED WING (ix)	56	21	36	55	168	63	21	41	55	180	210	225
	HELICOPTERS	55	30	85	70	240	40	15	120	50	225	275	305
	V/STOL	-	-	15	-	15	-	-	60 (x)	-	60	70	105
UNKNOWN													

- (i) Forty-five Medium Fixed Wing and 85 Helicopter transport not included here, but included in Table A 1.
 (ii) Numbers shown do not include 24 BADGER, 7 MAIL, 12 HORMONE A, 2 BACKFIRE, 2 MAY, and 2 BEAR F at Nikolayev/Kulbakino (Training a/c.).
 (iii) Includes 11 BADGER A and 10 BEAGLE free fall bombers in the Baltic Fleet, but does not include 16 BEAGLE (utility) tow target role (10 Baltic Fleet, 6 Northern Fleet).
 (iv) Includes 15 BACKFIRE.
 (v) Includes 40 BACKFIRE. (Possibly some for use in reconnaissance role.) Fleet subordination not known.
 (vi) Includes 95 BACKFIRE. (Possibly some for use in reconnaissance role.)
 (vii) Includes 140 BACKFIRE. (Possibly some for use in reconnaissance role.)
 (viii) Includes two CUB signal intelligence collection aircraft in each Fleet.
 (ix) MAIL, MAY, and BEAR F.
 (x) Fleet subordination may vary.

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TABLE N 5

ESTIMATED OOB OF NON-SOVIET WARSAW PACT NAVIES
BY COUNTRIES (MID-1976)

(Excluding Amphibious Ships and Craft)

CLASS	TYPE	GDR	POLAND	BULGARIA	ROMANIA
<u>SUBMARINES MEDIUM RANGE</u>					
WHISKEY	SS	-	4	2	-
ROMEO	SS	-	-	2	-
<u>SAM DESTROYER</u>					
SAM KOTLIN	DDG	-	1	-	-
NEW CLASS	DDG	-	1	-	-
<u>DESTROYER ESCORTS</u>					
RIGA	DE	2	-	2	-
<u>COASTAL ESCORTS</u>					
HAI	PC	12	-	-	-
KRONSTADT	PC	-	-	2	3
SO 1	PC	4	-	-	-
OBLUZE	PCS	-	14 (i)	-	-
GDANSK	PC	-	9	-	-
OKSYWIE	PC	-	4	-	-
SHANGHAI	PCS/ PGM	-	-	-	12 (i)
POTI	PC	-	-	-	3
<u>MISSILE PATROL CRAFT</u>					
OSA I	PTFG	12	12	3	5
<u>TORPEDO PATROL CRAFT</u>					
SHERSHEN	PTF	15	-	6	-
WISLA	PT	-	12	-	-
P 6	PT	-	3	-	-
P 4	PT	-	-	8	6
ILTIS	PT	38	-	-	-
LIBELLE	PT	5	-	-	-
HUCHWAN	PTH	-	-	-	6
<u>MINE WARFARE SHIPS</u>					
T 43	MSF	-	12	2	-
KRAKE	MSF	3	-	-	-
M 40	MSF	-	-	-	4
KRONGULEC	MSF	-	12	-	-
KONDOR	MSC	34	-	-	-
VANYA	MSC	-	-	4	-
T 301	MSM	-	-	1	10
PERSONNEL STRENGTH (ii)		17,500	26,000	10,500	11,000

(i) Numbers include some units from GDR Coastal Border Brigade (GBK)
Polish Maritime Frontier Guard (WOP), and Romanian Maritime Frontier Guard.

(ii) Numbers include Border Guards etc., and all naval elements.

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TABLE N 6
ESTIMATED AOB OF NON-SOVIET WARSAW PACT NAVIES BY COUNTRIES (MID-1976)

AIRCRAFT ROLE	GDR	POLAND	BULGARIA	ROMANIA	TOTAL
FIGHTER BOMBER RECCE	-	10	-	-	10
FIGHTER BOMBER ATTACK	-	36	-	-	36
ASW HELICOPTER (HOUND)	10	5	6	4	25
TRANSPORTS - FIXED WING	-	2	-	-	2
TRANSPORTS/RECCE HELO	6	27 (1)	-	-	33
TRAINING AIRCRAFT	-	3	-	-	3

(1) This figure includes 25 HARE.

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TABLE N 7

ESTIMATED OOB OF WARSAW PACT AMPHIBIOUS SHIPS, LANDING CRAFT, AND AIR CUSHION VEHICLES BY FLEETS/COUNTRIES
(YTD-1976)

A. Amphibious Vessels with a Primary Amphibious Role. (Those vessels used regularly to land amphibious troops and judged to represent the primary assault lift of the navy.)

CLASS	TYPE	SOVIET NAVY				Total	NSWP NAVIES				Grand Total
		North	Baltic	Black	Caspian	Pacific	GDR	Poland	Bulgaria	Romania	
ALLIGATOR	LST	2	3	4	-	4	-	-	-	-	13
ROPUCHA	LST	-	3	-	-	-	-	-	-	-	3
POLNOCNY	LSM	13	16	13	9	11	-	23	-	-	85
ROBBE	LSM	-	-	-	-	-	6	-	-	-	6
VYDRA	LCU	-	-	-	-	-	-	-	10	-	10
LABO 100	LCU	-	-	-	-	-	12	-	-	-	12
MFP	LCU	-	-	-	-	-	-	-	9	-	9
EICHSTADEN	LCP	-	-	-	-	-	-	15	-	-	15
MARABUT	LCVP	-	-	-	-	-	-	3	-	-	3

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TABLE N 7 (Continued)

B. Amphibious Vessels with a Residual Role Only. (Units designed as amphibious vessels and retaining a physical capability to land amphibious troops but which have not been observed to be used in that capacity in recent years.) (i)

CLASS	TYPE	SOVIET NAVY					Total	NSWP NAVIES				Grand Total
		North	Baltic	Black	Caspian	Pacific		GDR	Poland	Bulgaria	Romania	
MP-8	LSM	1	-	-	-	-	1					1
MP-4	LSM	1	-	-	-	5 (10)	6 (10)					6 (10)
SMB-1	LCU	-	(5)	(15)	(10)	5 (5)	5 (35)					5 (35)
VYDRA	LCU	-	-	5 (5)	3 (3)	5 (5)	13 (13)					13 (13)
MP-10	LCU	-	-	-	-	(5)	(5)					(5)
T-4	LCM	Numerous in all fleet areas for use in on/off-loading follow-up units.										
<u>Air Cushion Vehicles</u>												
AIST	LACV	-	3	-	-	-	3					3
LEBED	LACV	-	2	-	-	-	2					2
GUS	LACV	-	7	4	-	7	18					18

(i) Additional units estimated to be in reserve are shown in parenthesis.

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TABLE N 8
 MERCHANT SHIPPING OF THE WARSAW PACT (1 JAN 1976)
 (Seagoing ships of 100 GRT and Over, in Thousands of DWT)

COUNTRY	DRY CARGO (i)		CONTAINER		RO/RO		REFRIGERATED		BULK CARRIER		TANKER (POL.)		TANKER (SPE.)		PASSENGER (ii)		TOTAL	
	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT
USSR (over 1000 GRT)																		
Northern Fleet	195	988	-	-	-	-	-	-	23	210	4	12	-	-	9	6	231	1,216
Baltic Fleet	270	1,800	5	38	9	90	20	100	10	50	45	585	2	5	7	18	368	2,686
Black Sea Fleet	335	3,300	4	32	9	55	5	23	51	810	160	4,000	10	28	30	70	604	8,318
Pacific Fleet	330	2,175	5	38	-	-	2	9	24	170	63	450	-	-	23	58	447	2,900
Total	1130	8,263	14	108	18	145	27	132	108	1,240	272	5,047	12	33	69	152	1650	15,120
USSR																		
Caspian Sea Fleet	25	63	-	-	-	-	-	-	-	-	50	275	1	4	2	1	78	343
River-sea Fleet	230	640	-	-	-	-	-	-	-	-	60	280	-	-	-	-	290	920
Under 1000 GRT	65	31	4	4	5	8	-	-	-	-	2	2	-	-	-	-	76	45
Total	320	734	4	4	5	8	-	-	-	-	112	557	1	4	2	1	444	1,308
USSR: Grand Total	1450	8,997	18	112	23	153	27	132	108	1,240	384	5,604	13	37	71	153	2094	16,428
NSWP:																		
Poland	177	1,400	-	-	1	2	4	9	97	1,863	10	830	3	30	5	10	297	4,144
GDR	108	812	-	-	3	11	8	53	14	270	16	607	-	-	5	13	154	1,766
Bulgaria	57	390	1	2	-	-	-	-	29	362	22	506	-	-	5	8	114	1,268
Romania	67	335	-	-	-	-	-	-	26	561	7	435	-	-	1	2	101	1,333
Czechoslovakia	8	43	-	-	-	-	-	-	6	177	-	-	-	-	-	-	14	220
Hungary	20	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	90
Total	437	3,070	1	2	4	13	12	62	172	3,233	55	2,378	3	30	16	33	700	8,821
NSWP: Under 1000 GRT	72	55	20	18	-	-	1	1	-	-	14	10	-	-	3	1	110	85
NSWP: Grand Total	509	3,125	21	20	4	13	13	63	172	3,233	69	2,388	3	30	19	34	810	8,906
GRAND TOTAL: WP	1959	12,122	39	132	27	166	40	195	280	4,473	453	7,992	16	67	90	187	2904	25,334

(i) Includes timber carrier, cargo-passenger, cargo-training
 (ii) Includes short-sea passenger and passenger-car/rail ferries

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TABLE N 9
FISHING FLEETS OF THE WARSAW PACT (1 JAN 1976)
(Trawlers and Support Ships of 100 GRT and Over, Rounded to the Nearest 100 GRT)

COUNTRY	TRAWLERS		FACTORY TRAWLERS		FACTORY SHIPS & REF. TRANSPORTS		AUXILIARY SHIPS (1)		RESEARCH SHIPS		TOTAL	
	No.	GRT	No.	GRT	No.	GRT	No.	GRT	No.	GRT	No.	GRT
<u>USSR</u>												
Baltic Fleet	868	305,000	264	809,700	139	846,600	105	109,100	6	1,300	1,382	2,071,700
Black Sea Fleet	164	57,600	145	409,500	32	253,300	38	23,400	24	31,900	403	775,700
Northern Fleet	469	227,900	158	505,200	44	409,100	58	98,200	14	12,700	743	1,253,100
Far East Fleet	1,033	384,600	204	597,000	196	1,277,900	170	254,200	39	44,100	1,642	2,557,800
Caspian Sea Fleet	245	31,300	-	-	95	98,900	48	15,100	4	2,100	392	147,400
Total	2,779	1,006,400	771	2,321,400	506	2,885,800	419	500,000	87	92,100	4,562	6,805,700
<u>NSWP</u>												
Poland	182	56,500	83	174,000	7	48,000	8	11,600	3	3,700	283	293,800
GDR	133	57,200	13	39,300	8	42,500	5	1,600	5	2,900	164	143,700
Romania	-	-	29	89,900	4	36,300	-	-	-	-	33	126,200
Bulgaria	-	-	29	76,400	6	33,300	-	-	-	-	35	109,700
Total	315	113,700	154	379,600	25	160,100	13	13,200	8	6,600	515	673,400
GRAND TOTAL	3,094	1,120,100	925	2,701,000	531	3,045,900	432	513,200	95	98,700	5,077	7,479,100

(1) Includes tankers, tugs, training and floating workshop ships

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TABLE N 10

ESTIMATED NAVAL HYDROGRAPHIC/OCEANOGRAPHIC FLEETS
OF THE WARSAW PACT (MID-1976) (i)

COUNTRY	TYPE	CLASS	NUMBER
USSR (i)	AGOR	ABKHAZIYA	4
		NEVELSKOY	1
		AKADEMIK KRYLOV	3
		NILOLAY ZUBOV	9
		POLYUS	3
	AGS	BIYA	9
		KAMENKA	9
		LENTRA	8
		MELITOPOL	3
		MOMA	23
		TELNOVSK	4
		SAMARA	16
		T-43	20
		MP-8	1
		MOD TELNOVSK	2
		MOD KEYLA	1
		MOD LENTRA	5
		MOD DOBRYNYA NIKITICH	1
	AGSB	TOTAL	122
POLAND	AGS	MOMA	1
		TOTAL	1
GDR	AGSC	JORDAN	1
		KFK	1
		SCHOLLE	1
		TOTAL	3
BULGARIA	AGS	Single Ship	1
	AGSC	VARNA	1
		TOTAL	2
ROMANIA	AGS	FRIPONNE	1
		TOTAL	1

(i) There are, in addition, approximately 100 Soviet non-naval units, mostly of 500 GRT and over, subordinated to various research institutions.

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SECTION 3

AIR FORCES TABLES

TABLE A 1	SUMMARY OF ESTIMATED STRENGTH OF WARSAW PACT AIR FORCES BY MAJOR COMPONENTS (MID-1976)
TABLE A 2	ESTIMATED STRENGTH AND DISPOSITION OF SOVIET AVIATION OF AIR DEFENSE (MID-1976)
TABLE A 3	ESTIMATED STRENGTH AND DISPOSITION OF INTERCEPTORS OF SOVIET AVIATION OF AIR DEFENSE (MID-1979, MID-1982, AND MID-1985)
TABLE A 4	ESTIMATED STRENGTH OF SOVIET LONG RANGE AVIATION (MID-1976, MID-1979, MID-1982, AND MID-1985)
TABLE A 5	ESTIMATED STRENGTH AND DISPOSITION OF SOVIET FRONTAL AVIATION (MID-1976)
TABLE A 6	ESTIMATED STRENGTH AND DISPOSITION OF SOVIET FRONTAL AVIATION (MID-1978, MID-1982, AND MID-1985)
TABLE A 7	ESTIMATED STRENGTH AND DISPOSITION OF SOVIET MILITARY TRANSPORT AVIATION (MID-1976, MID-1979, MID-1982, AND MID-1985)
TABLE A 8	ESTIMATED STRENGTH OF NON-SOVIET WARSAW PACT AIR FORCES (MID-1976)
TABLE A 9	ESTIMATED STRENGTH OF NON-SOVIET WARSAW PACT AIR FORCES (MID-1979, MID-1982, AND MID-1985)
TABLE A 10	WARSAW PACT RESERVE COMBAT AIRCRAFT (MID-1976)
TABLE A 11	ESTIMATED STRENGTH OF SOVIET CIVIL AVIATION (MID-1976, MID-1979, AND MID-1985)
TABLE A 12	WARSAW PACT HARDENED AIRCRAFT SHELTERS (MID-1976)

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TABLE A 1

SUMMARY OF ESTIMATED STRENGTH OF WARSAW PACT AIR FORCES BY MAJOR COMPONENTS (MID-1976)

AIRCRAFT ROLE	SOVIET FRONTAL AVIATION	SOVIET AVIATION OF AIR DEFENSE	SOVIET LONG RANGE AVIATION	SOVIET NAVAL AVIATION (i)	MILITARY TRANSPORT AVIATION	TOTAL SOVIET	TOTAL NON-SOVIET	TOTAL WARSAW PACT (ii)	TOTAL WARSAW PACT (iii)
Interceptor	-	2465	-	-	-	2465	1130	3595	3595
Counterair	2030	-	-	-	-	2030	310	2340	2340
Ground Attack	1640	-	-	-	-	1640	542	2182	2182
Reconnaissance	405	-	-	-	-	405	66	471	471
TOTAL	4075	2465	-	-	-	6540	2048	8588	8588
Bomber	200	-	735	357	-	1292	18	1310	1310
Reconnaissance	330	9 (iv)	35	156 (v)	-	530	170	700	700
Electronic Warfare	75	-	50	35	45	205	-	205	205
Tanker	-	-	65	79	-	144	-	144	144
Fixed Wing	-	-	-	168	-	168	-	168	168
Helicopter	-	-	-	240	-	240	-	240	240
Transport	44	40	30	48	760	922	25	947	947
Medium/Heavy Helicopter	1950	115	10	77	370 (vi)	2522	356	2878	2878
GRAND TOTAL	6674	2629	925	1160	1175	12563	2617	15180	15180

(i) Does not include some 15 V/STOL aircraft estimated for SNA by mid-1976.
(ii) Does not include about 85 aircraft of NSWP naval aviation (see Table N 4).
(iii) Excluding 4555 reserve combat aircraft (see Table A 10).
(iv) AWAC aircraft.
(v) Includes 26 HORMONE B Reconnaissance helicopters.
(vi) Miscellaneous helicopters not accounted for in other air force tables including helicopters subordinated to Soviet military transport aviation.

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TABLE A 2
ESTIMATED STRENGTH AND DISPOSITION OF SOVIET AVIATION OF AIR DEFENSE (MID-1976)

AIRCRAFT TYPE	AIR DEFENSE DISTRICTS										TOTAL
	ARKHANGELSK	LENINGRAD	MINSK	KIEV	BAKU	TASHKENT	MOSCOW(1)	SVERDLOVSK	NOVOSIBIRSK	KHABAROVSK	
INTERCEPTORS	260	180	170	270	330	165	385	170	145	390	2465
AWAC	9	-	-	-	-	-	-	-	-	-	9
MEDIUM/ HEAVY TRANSPORT	4	3	-	3	2	3	20	-	2	3	40
MEDIUM HEAVY/ HELICOPTER	14	5	-	7	9	4	27	1	22	26	115

(1) Includes PVO Headquarters.

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TABLE A 3
ESTIMATED STRENGTH AND DISPOSITION OF INTERCEPTORS OF SOVIET AVIATION
OF AIR DEFENSE (MID-1979, MID-1982, AND MID-1985)

YEAR	AIR DEFENSE DISTRICTS										TOTAL
	ARKHANGELSK	LENINGRAD	MINSK	KIEV	BAKU	TASHKENT	MOSCOW	SVERDLOVSK	NOVOSIBIRSK	KHABAROVSK	
MID-1979	230	150	150	250	310	140	350	150	130	370	2230
MID-1982	230	150	145	240	305	140	335	150	125	360	2180
MID-1985	230	150	145	225	290	125	300	150	125	300	2040

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TABLE A 4

ESTIMATED STRENGTH OF SOVIET LONG RANGE AVIATION
(MID-1976, MID-1979, MID-1982, AND MID-1985)

	1st 2nd 3rd ARMY ARMY ARMY			TOTAL	1st 2nd 3rd ARMY ARMY ARMY			TOTAL	1st 2nd 3rd ARMY ARMY ARMY			TOTAL
BACKFIRE	20	20	10	50					75	75	50	200
BEAR/BISON												
BOMBERS	20	65	55	140					10	40	20	70
BADGER/BLINDER												
BOMBERS	280	165	100	545	215	145	90	450	170	100	50	320
TOTAL BOMBERS	320	250	165	735	295	235	155	685	255	215	120	590
BEAR E/BADGER F/ BLINDER C												
RECONNAISSANCE	5	15	15	35	15	15	10	40	20	20	10	50
BADGER A/BACKFIRE												
ELECTRONIC WARFARE	20	15	15	50	15	15	10	40	10	10	10	30
TANKER	35	-	30	65	30	-	30	60	30	-	30	60
TOTAL COMBAT SUPPORT	60	30	60	150	60	30	50	140	60	30	50	140
TRANSPORT												
MEDIUM/HEAVY	15	5	10	30	15	10	10	35	15	10	10	35
HELICOPTER												
MEDIUM/HEAVY	5	-	5	10	5	5	5	15	5	5	5	15
GRAND TOTAL	400	285	240	925	375	280	220	875	335	260	185	780
									260	225	165	650

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TABLE A 5

	250	350	440	233	273	792	732	6649
FISHBED J/K/L. FLOGGER.								
FIREBAR. FISHBED D/F, FRESKO.								
(ii) FITTER A/C, FLOGGER, FENCER.								
(iv) FISHBED H, FOXBAT B.								
(v) Medium and heavy helicopter regiments and flights assigned to TAAs.								

NOTE: There are no Frontal Aviation formations in the Volga, North Caucasus, Ural, and Siberian MDs.

(i) FISHBED J/K/L, FLOGGER.
(ii) FIREBAR, FISHBED D/F, FRESCO.
(iii) FITTER A/C, FLOGGER, FENCER.
(iv) FISHBED H, FOXBAT B.
(v) Medium and heavy helicopters.

(i) FISHBED J/K/L. FLOGGER.
(ii) FIREBAR. FISHBED D/F, FRESCO.
(iii) FITTER A/C, FLOGGER, FENCER.
(iv) FISHBED H, FOXBAT B.
(v) Medium and heavy helicopter regiments and flights assigned to TAAAs.

NOTE:

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TABLE A 7

ESTIMATED STRENGTH AND DISPOSITION OF SOVIET MILITARY TRANSPORT AVIATION
(MID-1976, MID-1979, MID-1982, AND MID-1985)

YEAR	AIRCRAFT CATEGORY	LENINGRAD MD	VOLGA CARPATHIAN BALTIC BELOUSSIAN MOSCOW MDs	ODESSA KIEV MDs	NORTH CAUCASUS TRANSCAUCASUS TURKISTAN URAL MDs	TRANSBAIKAL CENTRAL ASIA SIBERIA FAR EAST MDs	TOTAL
MID- 1976	Electronic Warfare	-	45	-	-	-	45
	Medium Transport	95	230	225	70	70	690
	Heavy Transport	-	50	20	-	-	70
	TOTAL	95	325	245	70	70	805
MID- 1979	Electronic Warfare	-	60	-	-	-	60
	Medium Transport	95	220	215	70	70	670
	Heavy Transport	15	45	25	15	5	105
	TOTAL	110	325	240	85	75	835
MID- 1982	Electronic Warfare	-	60	-	-	-	60
	Medium Transport	90	215	210	70	70	655
	Heavy Transport	20	55	40	20	15	150
	TOTAL	110	330	250	90	85	865
MID- 1985	Electronic Warfare	-	60	-	-	-	60
	Medium Transport	85	210	205	70	70	640
	Heavy Transport	25	65	50	25	20	185
	TOTAL	110	335	255	95	90	885

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TABLE A 8

ESTIMATED STRENGTH OF NON-SOVIET WARSAW PACT AIR FORCES (MID-1976) (i)

AIRCRAFT ROLE	GDR	POLAND	CZECHOSLOVAKIA	HUNGARY	ROMANIA	BULGARIA	TOTAL
FIGHTERS							
National Air Defense	280						
All Weather		215	90	85			
Clear Air Mass	-	85	30	55	180	30	880
Counterair					40	40	250
All Weather	-	100	80	-	-	20	200
Clear Air Mass	-	20	30	-	-	60	110
Ground Attack	42	195	155	-	80	70	542
Reconnaissance	-	36	25	-	-	5	66
SUBTOTAL	322	651	410	140	300	225	2048
BEAGLE	-	18	-	-	-	-	18
Reconnaissance (ii)	18	54	45	-	18	35	170
Helicopter (iii)	52	41	140	40	47	36	356
Transport Medium	10	10	2	-	3	-	25
SUBTOTAL	80	123	187	40	68	71	569
TOTAL	402	774	597	180	368	296	2617

(i) Does not include aircraft of NSWP naval aviation (See Table N 4).
(ii) BEAGLE (includes some BEAGLE ECM), CRATE SIGINT collection aircraft.
(iii) HOUND and larger

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TABLE A 9

ESTIMATED STRENGTH OF NON-SOVIET WARSAW PACT AIR FORCES (i)
(MID-1979, MID-1982, AND MID-1985)

	Aircraft Role	GDR	POLAND	CSSR	HUNGARY	ROMANIA	BULGARIA	TOTALS
1979	National Air Defense	290	290	125	125	200	70	1100
	Counterair	40	124	110	-	10	76	360
	Ground Attack	60	180	140	25	80	70	555
	Reconnaissance (ii)	35	95	60	-	28	40	258
	TOTAL	425	689	435	150	318	256	2273
	Helicopters (iii)	77	69	170	55	78	45	494
1982	National Air Defense	290	275	120	115	190	70	1060
	Counterair	75	124	110	-	25	74	408
	Ground Attack	84	155	130	30	80	60	539
	Reconnaissance (ii)	40	100	60	5	40	36	281
	TOTAL	489	654	420	150	335	240	2288
	Helicopters (iii)	84	100	170	60	80	54	548
1985	National Air Defense	290	285	115	100	190	70	1050
	Counterair	80	120	100	-	35	70	405
	Ground Attack	96	150	120	40	80	60	546
	Reconnaissance (ii)	40	100	60	10	40	36	286
	TOTAL	506	655	395	150	345	236	2287
	Helicopters (iii)	82	100	170	60	80	55	547

(i) Does not include NSWP naval aviation.
(ii) All fixed wing type.
(iii) HOUND and larger.

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TABLE A 10
WARSAW PACT RESERVE COMBAT AIRCRAFT (i)
(MID-1976)

	TRAINING AIRCRAFT (ii)			Storage Aircraft	Total
	Combat Units	Operational Conversion Units	Schools		
SOVIET	725	205	2135 (iii)	500	3565
NSWP	345	-	505 (iv)	150	1000
TOTAL	1070	205	2630	650	4555

(i) Excluding DOSAAF for which insufficient data is available to assess overall numbers.
(ii) Including MIDGET.

(iii) Excluding 1130 MAYA and 30 L-39.

(iv) Excluding 250 MAYA.

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TABLE A 11
ESTIMATED STRENGTH OF SOVIET CIVIL AVIATION
(MID-1976, MID-1979, AND MID-1985)

YEAR	JET			TURBOPROP			TWIN PISTON	HELICOPTERS AND LIGHT PISTON
	LIGHT	MEDIUM	HEAVY	LIGHT	MEDIUM	HEAVY		
1976	400	450	70	750	690	35	900	13,000
1979	750	600	115	940	650	30	750	10,000
1985	900	750	150	875	580	25	750	10,000

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PART III - Section 3

SECRETTABLE A 12WARSAW PACTHARDENED AIRCRAFT SHELTERS (MID-1976)

	<u>NSWP</u>	<u>SOVIET</u>
BULGARIA	180	-
CZECHOSLOVAKIA	250	55
GDR	95	695
HUNGARY	-	185
POLAND	120	280
ROMANIA	1	-
USSR	-	About 2700 (i)
TOTAL	646	3915

(i) About 2000 shelters are located at FA bases and the remainder at APVO bases in the USSR. (See Part II - Section 7).

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PART III

SECTION 4

ALBANIAN AND YUGOSLAV TABLES

TABLE Z-1	Summary of Albanian Armed Forces
TABLE Z-2	Summary of Yugoslav Armed Forces

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PART III - Section 4

SECRETTABLE Z-1SUMMARY OF ALBANIAN ARMED FORCES

Data on the Albanian Armed Forces are provided in the table below. For further details see SHAPE studies on countries bordering ACE.

GROUND FORCES

Personnel Strength

Army (including 5,000 personnel sub-ordinated to ground elements of National Air Defense-----	30,000
Frontier Troops-----	7,500
Interior Troops-----	<u>5,000</u>
TOTAL	42,500

Order of Battle

Infantry Brigades-----	5
Armored Brigade-----	1
Artillery Regiment-----	3

NAVAL FORCES

Personnel Strength-----	3,000
-------------------------	-------

Order of Battle

Submarines-----	4
Large Submarine Chasers-----	4
Other Coastal Patrol Types-----	60
Minesweepers-----	8

AIR FORCES

Personnel Strength (excluding 5,000 personnel of ground forces subordinated to elements of National Air Defense-----	7,600
--	-------

Order of Battle

Fighters-----	95
Transports-----	5
Helicopters-----	<u>35</u>
TOTAL	135

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SECRETTABLE Z-2SUMMARY OF YUGOSLAV ARMED FORCES

Data on the Yugoslav Armed Forces are provided in the table below. For further details see SHAPE studies on countries bordering ACE.

GROUND FORCES

Personnel Strength

Army (including 15,000 personnel assigned to ground-based elements of Air Defense)-----	208,000
Frontier Guard-----	<u>15,000</u>
TOTAL	223,000

Order of Battle

Infantry Divisions-----	9
Artillery Regiment-----	9
Infantry Brigade-----	11
Infantry Regiment-----	2
Mountain Brigade-----	2
Armored Brigade-----	7
Parachute Battalion-----	1

NAVAL FORCES

Personnel Strength-----	19,300
-------------------------	--------

Order of Battle

Submarines-----	5
Destroyers-----	1
Large Submarine Chasers-----	19
Guided Missile Boats-----	10
Other Coastal Patrol Types-----	58
Minesweepers (including 14 MSM/MSI)-----	28
Utility and Miscellaneous Landing Craft-----	41

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SECRETAIR FORCES

Personnel Strength (excluding 13,700 personnel of
ground forces subordinated to
elements of National Air
Defense)----- 31,100

Order of Battle

Day Fighters-----	40
All-Weather Fighters-----	80
Ground Attack-----	135
Reconnaissance-----	40
Transports (Light and Heavy)-----	55
Helicopters (Light and Medium)-----	<u>95</u>
TOTAL	435

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<u>PART IV</u>	<u>1</u>
<u>ILLUSTRATIVE CONCEPTS FOR THE EMPLOYMENT OF</u>	<u>2</u>
<u>WARSAW PACT FORCES IN THE EARLY STAGES OF WAR WITH NATO</u>	<u>3</u>
<u>(1976-1977)</u>	<u>4</u>
<u>SECTION 1</u>	<u>5</u>
<u>INTRODUCTION</u>	<u>6</u>
1. This Part describes examples of major military	<u>7</u>
operations the USSR and its Warsaw Pact allies might undertake	<u>8</u>
in a war with NATO during the period from mid-1976 to mid-	<u>9</u>
1977. It is emphasized that the campaigns illustrated which	<u>10</u>
have been selected from a whole range of scenarios are only	<u>11</u>
a guide to what is generally and logistically possible, and	<u>12</u>
must not be taken to indicate what is considered to be the	<u>13</u>
most likely operation. Therefore, these illustrative concepts	<u>14</u>
must not be used as the only basis for defense planning.	<u>15</u>
2. The operations presented do not consider any assistance	<u>16</u>
which the Pact forces might receive from subversive elements	<u>17</u>
located outside the Warsaw Pact. No allowance is made for	<u>18</u>
military requirements associated with non-NATO contingencies or	<u>19</u>
for damage caused by the effects of Allied military actions.	<u>20</u>
3. As discussed in Part I, Section 1, there is a	<u>21</u>
possibility that Albania and Yugoslavia might become aligned	<u>22</u>
with the Warsaw Pact. The capabilities of their armed forces	<u>23</u>
are therefore described in Part II and their numerical strengths	<u>24</u>
in Part III, Section 4, although their participation in	<u>25</u>
operations is not considered in this part.	<u>26</u>
	<u>27</u>
	<u>28</u>
	<u>29</u>
	<u>30</u>
	<u>31</u>

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PART IV - Section 1

SECRETPART IVSECTION 2

ILLUSTRATIVE CONCEPTS OF
OPERATIONS OF WARSAW PACT FORCES
IN A STRATEGIC NUCLEAR EXCHANGE

OBJECTIVES

1. Warsaw Pact (WP) objectives in a strategic nuclear exchange would be to destroy the NATO capability and will to wage war, while defending key control, military, industrial, and population centers -- particularly those of the USSR. The selection of targets and the choice of weapons would be dependent on the WP presumed desire to secure specific NATO industrial facilities and resources relatively intact.

OPERATIONS AGAINST NORTH AMERICA AND EUROPEAN NATOLand-Based Missiles and Aircraft

2. Land-based missiles of all types would be used against key targets such as urban/industrial areas, bomber and tanker bases, missile sites, military control centers, governmental control centers, naval bases, and probably nuclear storage centers in North America and European NATO countries. The USSR would seek a high initial salvo capability with these missile systems. Attacks by Long Range Aviation (LRA), Frontal Aviation (FA), and Naval Aviation (SNA) would likely follow initial ballistic missile strikes. LRA bombers would probably have a mission of striking preassigned targets and might also have a mission of assessing the success of missile attacks, striking surviving targets, and providing targeting data for residual missiles. Air-to-surface missiles (ASM) would be used against some targets and their stand-off capability would add to the bombers' survivability. WP air forces would employ a combination of high and low altitude penetration techniques,

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and could be expected to take advantage, within their capabilities, of poor weather, darkness, deception techniques, and electronic countermeasures.

Submarine Launched Ballistic Missiles (SLBMs)

3. Soviet SLBMs would be primarily targeted against North America in the event of general war. As more DELTA class ballistic missile nuclear submarines (SSBNs) have become available in recent years, the long transit from Soviet bases required for large scale participation in an initial attack on North America by YANKEE class SSBNs, with their shorter-range SLBM, has become less of a constraint on the weight and timing of Soviet SLBM participation in a strategic nuclear exchange. The number of SLBM deployed (or maintained on station) would be influenced by such variable factors as requirements for surprise, transit time, the duration of any pre-hostilities period of tension, and the extent of NATO antisubmarine warfare (ASW) surveillance.

4. Some ballistic missile firing submarines, mainly diesel-powered units, are more suitable for use against Europe. Their targets could include SSBN bases; communication and control centers are other likely targets for initial attack.

OPERATIONS AGAINST NATO NAVAL STRIKE FORCESMethod of Employment Against Carrier Strike Forces

5. In the Atlantic and Pacific, the burden of detecting, tracking, and attacking the NATO carrier strike forces would be borne primarily by the Soviet HF/DF net, submarines, SNA aircraft, and some LRA aircraft. Reconnaissance satellites and intelligence collection ships (AGI) would also assist in this endeavor but would primarily be used for surveillance.

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Surface forces are likely to be deployed in the Norwegian 1
 Sea, operating in conjunction with air and submarine 2
 elements. In the North Atlantic and Norwegian Sea, the 3
 majority of submarines would probably be deployed in a wide 4
 band across the approaches to the likely carrier launch 5
 areas -- although CHARLIE and VICTOR class nuclear powered 6
 submarines could deploy independently to intercept the strike 7
 forces. 8

9
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The 12
 extent of deployment undertaken would depend on the time 13
 available to the Soviets and the need to conceal such 14
 movements from NATO detection. If such deployments were 15
 achieved, the attacks by submarines -- particularly by those 16
 armed with missiles -- in conjunction with attacks by ASM- 17
 equipped BACKFIRE and BADGER aircraft, could pose a 18
 considerable threat to NATO carrier forces. ASM-equipped 19
 BEAR and BACKFIRE aircraft of LRA would also be a threat in 20
 more distant waters. 21

6. In the Mediterranean, submarines, aircraft, and 22
 surface forces could all play a part in integrated anti- 23
 carrier operations. From the observed operations of the 24
 Soviet Mediterranean Squadron (SOVMEDRON), it is believed that 25
 surveillance and reconnaissance would be performed by surface 26
 combatants, AGIs and any aircraft available in the area at the 27
 time, and probably reconnaissance satellites. Some submarine 28
 and surface components would seek to be within range of the 29
 carrier groups prior to the outbreak of hostilities and thus 30
 in position, when ordered, to fire first. Attacks by 31
 Black Sea Fleet Air Force ASM-equipped aircraft would be
 probable.

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PART IV - Section 2

SECRETMethod of Employment Against NATO Ballistic Missile Submarines 1

7. Because of the widespread area to be searched, Soviet 2
 naval forces have little chance of countering the NATO SSBN 3
 force at sea. Nonetheless, the Soviets may employ their 4
 forces in the following manner in an attempt to counter this 5
 threat: 6

a. Submarines, particularly nuclear-powered attack 7
 types, could deploy in an attempt to intercept SSBNs when they 8
 leave their bases or while they are in transit to patrol areas. 9

b. ASW aircraft could attempt to detect and destroy 10
 submarines in open seas areas. 11

c. Surface ships could be used for anti-SSBN 12
 operations in certain focal areas. 13

d. Mines could be placed in SSBN focal areas and 14
 harbor entrances. 15

DEFENSE OF WP AGAINST AIR AND MISSILE ATTACK 16General 17

8. The present WP air defense system has a formidable 18
 capability against aircraft flying at medium and high altitudes, 19
 and a limited one against targets 25X5 20
 except in heavily defended areas(1). Soviet and NSWP air DIA 21
 defense forces in the NSWP countries would be coordinated 22
 and controlled by the Soviets. Antiballistic missile (ABM) 23
 defense would allow for a limited defense in the Moscow area. 24

Method of Employment 25

9. The WP could probably obtain good warning of air 26
 attacks. It would attempt to disrupt NATO air attacks by ECM. 27
 The high density of surface-to-air missiles (SAM) and radars 28

(1) See Part II - Section 7. 29

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within the NSWP area and the peripheral of the USSR, and the
diversity of frequencies they use, reduce the vulnerability of
the air defense system to NATO ECM.

10. WP air defense forces are intended to provide an
in-depth strategic defense. Once detected, penetrating aircraft
would face a series of defenses. Interceptors would provide
the first line of air defense. Then penetrating aircraft
would face SAM barrier defenses and point defenses of important
targets. Interceptors would also provide a defense in depth
behind SAM barriers as well as point defense of special target
complexes outside areas of SAM point defense.

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PART IV - Section 2

SECRETPART IV1SECTION 32ILLUSTRATIVE CONCEPT OF OPERATIONS3TO DENY NATO NATIONS FREE USE OF THE SEAS4OBJECTIVES5

1. In any war with NATO, Warsaw Pact (WP) general purpose naval forces would conduct operations aimed at achieving the following major objectives (not in order of priority):

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a. Location and destruction of NATO naval forces;

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b. protection of WP shipping and sea lines of communications;

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c. establishment of naval supremacy in those maritime areas considered crucial to the security of the WP countries;

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d. disruption and denial of NATO sea lines of communications; and

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e. offshore defense and support of ground operations.

18CONSIDERATIONS AFFECTING OPERATIONS19General20

2. The Soviets would not willingly undertake hostilities at sea with NATO without being prepared for escalation to general war. However, naval incidents of various kinds could occur as accidental or isolated events in peacetime or during periods of tension.

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3. In a war with NATO the extent to which WP naval forces would undertake operations toward the foregoing objectives depends in general upon:

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a. The nature and relevance of the conflict to maritime theaters;

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PART IV - Section 3

SECRET

b. the circumstances under which the conflict started; 1

c. the strength and disposition of available WP naval forces; and 2

d. the strength and disposition of NATO naval forces. 3

4. If the Soviets were to initiate hostilities deliberately, they probably would seek to maximize the strength and disposition of their predeployed forces at least risk of compromising the element of surprise. If hostilities were to break out suddenly, WP naval forces probably would seek both to ensure the immediate security of their home waters and to initiate operations against NATO naval forces and sea lines of communication. A protracted period of preparation prior to hostilities would be needed to enable the WP countries to maximize the readiness of their forces. 4

Logistic Considerations 5

5. Applicable considerations of logistics and supply are discussed in Part II - Section 5, paragraphs 47 through 52. 6

Forces and Weapon Systems 7

6. In the initial stages of hostilities a large proportion of Soviet submarine, naval air, and major surface forces would be concerned primarily with locating and destroying NATO naval forces capable of delivering nuclear strikes. In addition, a number of submarines, naval aircraft, and major surface combatants could be available for allocation to other tasks. Almost all naval forces, including about a third of Soviet Naval Aviation (SNA) aircraft, have a mining capability. A portion of SNA has a free fall bombing capability. Soviet 8

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PART IV - Section 3

SECRET

Long Range Aviation (LRA) and to a lesser degree Frontal
Aviation (FA) and Soviet Homeland Air Defense Troops (PVO
Strany) would also be used in support of maritime operations
to the extent they were available and considered necessary.

Antisubmarine Warfare (ASW)

7. ASW operations involving surface, submarine, and air
forces probably would be mounted in the areas bordering the
WP countries in the early stages of hostilities. As required,
the Soviets would also initiate ASW operations in the eastern
North Atlantic, Norwegian Sea, Mediterranean, western Pacific,
and perhaps the Indian Ocean.

Mine Warfare

8. The WP would probably lay extensive minefields at or
before the outbreak of war. For offensive mining to be
effective during the initial phase of a war, minefields would
need to be laid before hostilities commenced; if such mine-
fields were laid, the task probably would be carried out by
submarines. Such minefields could be reinforced by air-dropped
mines on the outbreak of hostilities. It is difficult to
assess what effort would be allocated to mining. If there
were to be in an extended period of hostilities, the WP
might undertake mining to deny NATO freedom of movement and
use of ports. Minelaying by merchant and fishing vessels
is also possible in certain areas.

OPERATIONS IN THE ATLANTIC, INCLUDING THE BARENTS SEA, THE
NORWEGIAN SEA, AND THE APPROACHES TO EUROPE

Composition of Forces

9. Soviet naval forces available in these areas are those
of the Northern Fleet augmented by suitable units able to
deploy from the Baltic.(1)

(1) See Part III - Section 2, Tables N 1 through N 6.

SECRETMethods of Employment

10. In addition to those forces concerned primarily with location and destruction of NATO nuclear strike forces, Soviet attack submarines and some cruise missile units probably would be deployed in focal areas and across shipping routes for attacks on NATO warships and merchant ships; suitable surface forces would be used to defend Soviet coastal sea lanes, to support any ground forces campaign against the Scandinavian Peninsula, and to attack NATO surface forces and merchant ships; naval air forces are likely to be used for offensive operations and reconnaissance against ships and shore targets, in ASW, and in electronic warfare roles; amphibious forces would be used to conduct assault operations and support land campaigns. Offshore installations may also be possible targets.

11. The capture of bases in Norway could benefit the Northern Fleet forces by making the passage through the Norwegian Sea into the Atlantic more secure, increasing the range of air cover, making further dispersal bases available, and by reducing transit distances to operating areas.

OPERATIONS IN THE BALTIC AND ADJACENT WATERSComposition of Forces

12. Soviet naval forces in the Baltic, some of which are better suited for operations on the high seas than in this enclosed area, are assessed to exceed the requirements for gaining and maintaining local naval supremacy. There are thus likely to be some deployments to other areas or transfers to another fleet prior to hostilities, if circumstances allow. However, the naval forces of the GDR and Poland would be available to augment the Baltic Fleet.(1)

(1) See Part III - Section 2, Tables N 1 through N 6.

SECRET

<u>Methods of Employment</u>	<u>1</u>
13. Suitable naval and naval air units, supported by	<u>2</u>
WP air forces, would be used to neutralize NATO defense	<u>3</u>
capabilities. This would be followed by flank support and	<u>4</u>
amphibious assault operations, designed to secure the Baltic	<u>5</u>
approaches in conjunction with other forces. Thus, the WP	<u>6</u>
naval forces would be freed for operations in adjacent waters	<u>7</u>
and open oceans. Control of the Baltic approaches is vital to	<u>8</u>
subsequent naval operations in this area. Once this control	<u>9</u>
has been established, remaining suitable Baltic Fleet forces	<u>10</u>
could deploy outside the Baltic area.	<u>11</u>
<u>OPERATIONS IN THE MEDITERRANEAN AND BLACK SEA</u>	<u>12</u>
<u>Composition of Forces</u>	<u>13</u>
14. Soviet naval forces in the Black Sea appear to	<u>14</u>
exceed the requirements for maintaining naval supremacy and	<u>15</u>
for conducting amphibious operations in that area, mainly due	<u>16</u>
to the commitment to provide the majority of Soviet surface	<u>17</u>
naval forces in the Mediterranean. The submarine component	<u>18</u>
of the Soviet Mediterranean Squadron (SOVMEDRON) is provided	<u>19</u>
from the Northern Fleet. In addition, the naval forces of	<u>20</u>
Romania and Bulgaria would be available to support the Black	<u>21</u>
Sea Fleet.(1) It is expected that the Soviets would build up	<u>22</u>
their forces in the Mediterranean prior to hostilities.(2)	<u>23</u>
<u>Method of Employment</u>	<u>24</u>
15. Suitable naval and naval air units in the Black Sea,	<u>25</u>
supported by WP air forces, would be used to neutralize NATO	<u>26</u>
defense capabilities, in support of land campaigns, to conduct	<u>27</u>
amphibious assaults, to secure the Turkish Straits, and then to	<u>28</u>
establish maritime supremacy in the Aegean, thus freeing WP	<u>29</u>
	<u>30</u>
(1) See Part III - Section 2, Tables N 1 through N 6.	
(2) The composition and normal operations of SOVMEDRON are	<u>31</u>
discussed in Part II - Section 5, paragraphs 79 and 80.	

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naval forces for operations in the Mediterranean. Control 1
of the Black Sea approaches is vital to subsequent naval 2
operations in the whole area. Once this control has been 3
established, remaining suitable Black Sea Fleet forces 4
could deploy to the Mediterranean. 5

16. Soviet naval forces in the Mediterranean, especially 6
the missile-equipped submarines and surface units, would try 7
to be in position, either prior to the outbreak of hostilities 8
or shortly thereafter, for immediate action, when ordered, 9
against major NATO naval units. Soviet units not in position 10
to contribute to this task would probably attack other NATO 11
naval forces, merchant ships, or key shore installations as the 12
opportunities arose. In addition, SOVMEDRON would strive to 13
assist the WP main effort against NATO's southern flank 14
including southern Anatolia, or in the Balkans. 15

OPERATIONS IN THE PACIFIC AND INDIAN OCEANS 16

Composition of Forces 17

17. Soviet naval forces normally available in the 18
Pacific and Indian Oceans are those of the Pacific Fleet.(1) 19
Soviet naval deployments to the Indian Ocean are usually 20
made by units of the Pacific Fleet, although ships and 21
submarines from the other fleets in transit to the Pacific 22
occasionally deploy there. With the reopening of the Suez 23
Canal, Soviet options for transfers via this route have 24
increased, but the Soviets will recognize the risk of sudden 25
closure of the Canal. 26

(1) See Part III - Section, Tables N 1 through N 5. 27
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SECRET

<u>Method of Employment</u>	<u>1</u>
18. Upon the outbreak of hostilities between the WP	<u>2</u>
and NATO, the foremost concern of the Pacific Fleet would	<u>3</u>
be to protect the Soviet coastal areas against air or ground	<u>4</u>
attack. It would also be concerned about any enemy carrier	<u>5</u>
strike forces or missile submarines which might be in	<u>6</u>
position to pose a threat. Little early assistance would	<u>7</u>
likely be available for the European fleets due to concern	<u>8</u>
over China's intentions and US actions. Withdrawal of some	<u>9</u>
SNA units from their primary bases to dispersal airfields,	<u>10</u>
along with sorties of available naval units from the naval	<u>11</u>
bases to off-shore positions, is likely. Out-of-area	<u>12</u>
activity may increase, but would not necessarily be directed	<u>13</u>
toward Chinese waters or the eastern Pacific. Naval Infantry	<u>14</u>
would be employed as required to help secure egress through	<u>15</u>
the Japanese Straits and to secure or retake Soviet coastal	<u>16</u>
or inland waterway areas (to include ports, naval bases,	<u>17</u>
and shipyards) along the Sino-Soviet border in the event of	<u>18</u>
Chinese action. Antishipping activity would be directed	<u>19</u>
against any naval forces attempting to penetrate the Sea of	<u>20</u>
Japan. Those Soviet units deployed to the Indian Ocean would	<u>21</u>
likely attack NATO naval units in the area and attempt to	<u>22</u>
either harass, blockade, or sink NATO merchant shipping,	<u>23</u>
especially oil traffic.	<u>24</u>
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PART IV - Section 3

SECRETPART IVSECTION 4ILLUSTRATIVE CONCEPT OF OPERATIONS AGAINST THE AREA OF
ALLIED COMMAND EUROPEINTRODUCTION

1. Purpose. The purpose of this Section is to provide illustrations of the sort of operations which might be carried out by the Warsaw Pact (WP) in the area of Allied Command Europe (ACE) and adjacent areas, having regard to the Pact's assumed knowledge of NATO dispositions and capabilities, to Pact concepts of operations, to the forces available to it and to NATO in varying circumstances, to the constraints to which the WP is likely to be subject, and to the terrain.
2. The Soviets would expect Central Europe to be the decisive theater of general purpose forces' operations in a large-scale NATO-Warsaw Pact conflict. Whether they would launch offensives all along NATO's flanks concurrently with any campaign in Central Europe is uncertain. The WP has the means, described in Annex A of this Section, to conduct offensive operations in Scandinavia and southern Europe while simultaneously carrying out an offensive against the NATO center. Early Pact offensives toward the Turkish Straits and northern Norway are more likely than in the other flank areas such as Italy and the rest of Scandinavia.
3. As noted in the introduction to Part IV, these descriptions are not intended to imply predictions. The evidence on which reliable predictions could be based is not available; calculations as to forces and objectives could be wrong; terrain has been considered only in its broadest aspects; and perhaps above all, no account has been taken of the Soviet predilection for surprise. FOR THESE REASONS AMONG OTHERS,

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IT WOULD BE IMPRUDENT TO REGARD THE CONTENTS OF THIS SECTION 1
AS ANYTHING MORE THAN EXAMPLES OF SOME POSSIBLE WAYS IN WHICH 2
OPERATIONS COULD DEVELOP. The theaters considered are: 3
 Western Continental Europe; the Scandinavian Peninsula; 4
 Southern Europe and Western Turkey; and Eastern Turkey. There 5
 are brief references to Iran and Berlin. 6

4. Contingencies. There can be little doubt that the 7
 Warsaw Pact has plans to cover all contingencies such as 8
 defense against a NATO attack; a war arising quickly from 9
 local clashes, or spreading quickly from other geographical 10
 areas; or a Soviet attack mounted in a period of deteriorating 11
 relations, after partial or complete mobilization and 12
 reinforcement of forward areas. There is extremely little 13
 evidence as to any WP preference for a surprise or deliberate 14
 attack. 15

5. Options. In this Section, since it is impossible to 16
 cover every contingency, only examples approaching the two 17
 extremes are considered: 18

a. Option 1. A war in which hostilities commence 19
 with little preparation and before forward reinforcement takes 20
 place; 21

b. Option 2. A war in which hostilities commence 22
 only after the WP preparations are substantially complete. 23
 The mobilization status of NATO is not addressed. There are 24
 of course intermediate situations, which to a limited extent 25
 can be developed by a process of interpolation, but this 26
 process has some appreciable dangers, since plans for Option 2 27
 are not necessarily mere extensions of plans for Option 1. 28
 Such intermediate situations, for example, could permit the 29
 WP to mobilize and deploy East European-based forces with no 30
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PART IV - Section 4

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comparable activity occurring in the Western Military Districts (WMD) of the USSR until it is perceived that a war is likely.

Assumptions

6. In this Section, it is assumed that in both options, the WP would mobilize and would reinforce potential combat areas as soon and as quickly as possible; thus in Option 2 reinforcements would arrive before hostilities commence, while in Option 1 they would arrive only in the course of hostilities, but the speed of the Pact buildup would be the same in both cases. It is reasonable however to conclude that, taking military considerations alone, they would prefer to attack at the moment when the balance of forces is most favorable to them. It is quite impossible to predict this moment, which depends upon WP perceptions and actions, the intelligence gained by NATO, and consequent NATO reactions, as well as on non-military considerations, the dynamics of which are impossible to portray. These issues are discussed fully in Part I - Section 6. It should be repeated that what follows are illustrations; these are, of course, guided by such basic intelligence as is available but are not intelligence predictions of the actual course of events.

7. It is assumed that all the campaigns illustrated would be carried out as nearly simultaneously as possible. A concurrent attack on Iran as well as against NATO is assumed to be unlikely, but since the Soviets must provide for the contingency of hostilities with Iran, appropriate forces have been allotted. For the same reason, no forces normally facing China have been considered in the illustrations.

8. It is assumed that WP forces generally would be directed against NATO countries closest to their peacetime

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locations and that mobilized forces which have not reached
 standard combat effectiveness would not be withheld from
 commitment on that account. The effect of Allied interdiction
 on movement and supply has not been considered, nor the possible
 effect of hostile action by disaffected indigenous elements.
 Clandestine and subversive operations by the WP are also not
 considered. Isolated and local acts of aggression are not
 addressed.

FORCES EMPLOYED

9. General. With the exceptions noted in the paragraphs
 above, all Warsaw Pact Armed Forces could be committed to war
 against NATO. Sections 2 and 3 of this Part deal with strategic
 and naval operations, however, so these forces are here
 considered only insofar as they might contribute to the combat
 or general purpose forces facing ACE.

10. Strategic Forces. In nuclear operations, strikes
 by tactical missile and air units could be supplemented by
 strategic missile strikes against targets of importance to
 theaters and Fronts, such as nuclear delivery systems, air
 defense facilities, headquarters (HQ), and logistic and
 reinforcement facilities, which might be beyond the range or
 capability of tactical weapon systems.

11. Air Forces. The bulk of air operations in the
 combat zones would be provided by Soviet and NSWP tactical
 air forces.(1) These operations would be initiated by
 aircraft already within range of most areas of ACE,
 reinforced by the forward deployment of other Frontal
 Aviation (FA) aircraft from within the Soviet Union. In
 addition, aircraft of Soviet Long Range Aviation (LRA) would

(1) See Part II - Section VI.

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support general purpose forces by executing offensive air
 operations requiring greater range and bomb-carrying capa-
 bilities. Units of Soviet Naval Aviation (SNA) could also
 be employed for maritime and coastal, including amphibious,
 operations. Most of the foregoing forces are capable of
 nuclear or nonnuclear operations. Additional electronic
 warfare support could be provided by Military Transport
 Aviation (VTA). Because of the speed with which aircraft can
 deploy, the geographical location of air forces in peacetime
 is not necessarily a guide to their wartime operational
 deployments. Air power would be allocated roughly proportion-
 ately to theater and Front objectives.

12. Naval and Amphibious Forces.(1) Amphibious assault
 operations often in conjunction with airborne (ABN) assaults,
 would be carried out. Naval units, including naval aviation,
 would be likely to provide support on the sea flanks of
 ground operations.

13. Ground (including Airborne) Forces. Operations
 would in virtually every case be initiated by forces already
 in or close to the combat zones. These could be strengthened
 as soon as possible by additional forces, many of them
 initially at a lower state of combat effectiveness and sometimes
 of equipment, from rearward areas. Concepts for the operations
 of ground forces are set out in Part II - Section 4,
 paragraphs 24 to 32. The intensity of operations, and to some
 extent their nature, would be influenced by the forces
 available at the opening of a conflict, but would not be the

(1) Details of Naval Infantry and Assault and Administrative
 Lift Capabilities are given in Part II - Section 5.

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same in all areas. Strong offensive thrusts in key areas would be balanced by secondary operations in others. Airborne operations, subject to a favorable air situation, could be used in various ways, to extend ground forces' operations beyond the range of heliborne attacks; for intelligence and sabotage activities; and for distant tasks not directly connected with ground operations.(1)

14. Assumed Allocation of Ground and Air Forces. The ground and tactical air forces assumed to be employed are set out in tabular form in Annex A to this section. Additional details of the grouping of these forces for both options are provided in the text relating to each campaign. Reinforcements for use against ACE or elsewhere could be drawn from forces in the Kiev, Moscow, Ural, and Volga Military Districts (MDs). In these illustrations, Soviet and indigenous forces in Hungary are assumed to operate against NATO's Southern Region. However, they could be employed to reinforce operations against the NATO Central Region.

GENERAL MILITARY OBJECTIVES

15. The principal objectives of the WP in campaigns described in this section would be to destroy NATO's will and capability to fight. To this end they would aim in each theater to:

- a. destroy NATO nuclear delivery means.
- b. destroy other NATO forces.
- c. seize strategic areas to further their own or hamper NATO's operations.
- d. prevent NATO reinforcement.

(1) See also Part II - Section 4, paragraph 71.

SECRETCAMPAIGNS AGAINST WESTERN CONTINENTAL EUROPE

16. Concept. These campaigns may be regarded as
constituting a single Theater of Military Operations (TVD)
stretching from the Baltic to the Austrian Alps. Operations
could be initiated by three Fronts; a Northern Front,
comprising three Polish armies and the Polish airborne and
sea-landing divisions, responsible for operations against
Schleswig-Holstein and Denmark, and developing operations
westwards on the flank of the Central Front, to the
Bremerhaven-Wilhelmshaven area; a Central Front comprising
Soviet (GSFG and NGF) and GDR forces responsible for operations
into the Federal Republic of Germany developed from the
remainder of the GDR; and a Southern Front comprising Soviet
(CGF) and Czech forces responsible for operations against the
Southern Federal Republic of Germany and possibly Austria
developed from Czechoslovakia. The Northern, Central, and
Southern Fronts could subsequently aim to exploit across the
Rhine to the North Sea, Atlantic and Mediterranean Coasts,
but such exploitation phases are not illustrated further in
this Section. The organization of WP forces is flexible and
operations subsequent to the initial days of a conflict may
take several forms. In both options it might well be that
a fourth Front, comprising some of the forces initially
engaged and some of those arriving from USSR, could at some
stage be constituted as the area of operations widened, but
in Option 1 at least it is more likely that all early
reinforcements would be placed initially under the operational
control of the leading Fronts. A Theater Reserve could be
constituted from divisions not initially allotted to
reinforcing armies. Subject to lift availability, airborne

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PART IV - Section 4

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divisions from Western USSR could be committed at any stage 1
of the campaigns. 2

17. Air Operations. The prime aim of the WP air forces 3
would be to neutralize as quickly as possible NATO's tactical 4
nuclear response capability and to establish air superiority. 5
This would involve widespread attacks on NATO airfields as 6
well as attacks on other nuclear weapons facilities and control 7
centers. It seems likely that for the foreseeable future 8
their overall strategy will remain the same, although there 9
may be some changes in the tactical implementation as more 10
new aircraft and weapons enter service. A maximum effort 11
would probably be critical to the success of such an air 12
campaign. In order to achieve a maximum effort consideration 13
would likely be given to reinforcement. However, early 14
movement of reinforcement aircraft could provide warning to 15
NATO. Not all these aircraft could be accommodated in 16
existing shelters. Many would be exposed to severe attrition 17
on the ground. Therefore, in the interests of surprise, and 18
to reduce the risk of attrition, the initial assault in 19
Option 1 may be conducted by aircraft presently based in 20
Eastern Europe as well as those FA and LRA aircraft in the 21
Western USSR which could reach targets within ACE. Aircraft 22
in East Europe could be reinforced by aircraft from rear 23
areas during or immediately following the initial attack. 24
Most of the air operations described are not likely to be 25
carried out other than in daylight and in reasonable weather 26
conditions. 27

18. Forces Available. See Annex A to this Section. 28
Further details of possible groupings are given under each 29
Front below; in addition to the forces set forth in Annex A, 30
units of the Soviet Baltic Fleet and of the Polish and GDR 31

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navies, including amphibious units, would support land operations of the Northern Front. 1
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Northern Front 3

19. In pursuit of the general objectives stated in paragraph 15, forces of the Northern Front would seek to destroy NATO forces in Schleswig-Holstein and Jutland, with the further objectives of control of the Baltic Sea and exits, assuring passage to the open ocean, and the elimination of Denmark from the war. Airborne and amphibious forces would support the main effort with attacks both on the flanks and in the Danish Islands. Other forces of the Northern Front could be used west of the Elbe to control North Sea ports, and to protect the flanks of the Central Front. 4
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20. In Option 1, depending on the preparation time allowed, assault forces could initially consist of four Soviet divisions (2nd Guards Tank Army) and three GDR divisions which are already facing Schleswig-Holstein and the Hamburg area. These forces could be assisted by the Polish airborne and sea-landing divisions whose movements would depend largely on the availability of Soviet transport. Upon arrival of the Polish Front, the Polish 1st (Silesian) and 2nd (Pomeranian) Armies would probably assume first echelon roles, allowing 2nd Guards Tank Army and East German divisions to revert to operations on the northern flank of the Central Front. The Polish 3rd (Warsaw) Army would probably become available as a second echelon of the Northern Front within several days. In Option 1, local control of the ground forces might be exercised initially by the Central Front Hq until the Northern Front Hq became operational. 14
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21. In Option 2, it would be possible to establish the Polish Front organization in the GDR prior to D-Day. The 30
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three Polish armies, airborne division, and sea-landing
 division would conduct broadly similar operations in both
 options. Reinforcement of the Front would be drawn from the
 theater reserve, which probably would be formed primarily
 from units in the Baltic MD. Baltic Fleet Naval Infantry
 units would also be available to support operations in this
 area.

Central Front

22. The objective would be the destruction of NATO forces
 in the area by penetration of NATO defenses in perhaps two
 main zones. Operations could be directed to the crossing of
 the Rhine to secure North Sea, Channel, and Atlantic ports and
 airfields through which reinforcements might come. GDR
 Border Troops and other paramilitary forces could be committed
 initially to the reduction of Berlin.

23. In Option 1, operations could be initiated by GSFG,
 NGF, and units of the GDR under Soviet control, less those
 elements initially committed to the Northern Front sector.
 Major thrusts, dictated largely by terrain factors, could
 develop along the general axes Magdeburg-Hanover and
 Eisenach-Frankfurt, with holding or flank protection operations
 in other areas. Of the 21 divisions initially available, most
 could be committed to the Front first echelon. The remainder
 would be available to rapidly exploit success or major gaps
 in NATO defenses. A division of NGF and those elements
 initially employed in the Northern Front sector could
 reinforce Central Front operations. Airborne forces would
 also be available to conduct operations as required.

24. In Option 2, 28 Soviet and GDR divisions would
 probably constitute the Front organization. A portion of the
 theater reserve, possibly comprising 10-12 Soviet Category A

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and B divisions from the Western MDs, could be available to support this Front. In these circumstances, the two main thrusts could develop largely as described above, but the intensity of combat within them, and on the flanks, could be higher.

Southern Front

25. The initial objective of the Southern Front might be to engage facing NATO forces by two thrusts on the line Karlovy Vary - Karlsruhe and Pisek - Stuttgart with sufficient intensity to secure flank protection of the Central Front and to prevent any redeployment of NATO forces. The additional threat of an attack by Hungarian-based forces through Austria into the southern FRG cannot be discounted. NATO forces would be engaged all along the Front; at an appropriate stage, forces from Czechoslovakia could intensify their frontal assaults to complement operations of the Central Front. Their further objectives could be the crossing of the Rhine and penetration of France.

26. In Option 1, the initial attacks would be carried out by forces of the Czech 1st and 4th Armies. Control, although perhaps nominally Czech, would be exercised in effect by the Soviets. CGF, and available forces from the Czech Eastern MD, could constitute the Front second echelon.

27. In Option 2, it would be open to the Soviets to initiate hostilities with the forces of CGF and the Czech 1st and 4th Armies in the first echelon. The second echelon could initially comprise available forces from the Czechoslovak Eastern MD, but these could readily be augmented by Soviet forces from the theater reserve (primarily the Carpathian MD). If a fourth Front is introduced, it is conceivable that part of the forces of the Southern Front could be allotted to it.

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28. Air Forces. In all the above illustrations, the term Front is taken to include WP air forces in support as well as those air armies from the WMDs which could be available for operations in advance of the arrival of corresponding ground forces.

Logistic Considerations

29. General. The operations described above envisage the employment of up to 70-80 divisions before it becomes necessary to engage parts of the theater reserves or forces from the Kiev, Moscow, Ural, and Volga MDs. At the opening of hostilities, up to 35 divisions of this force could be actively engaged, and this figure might rise to 45-50, as operations develop and a possible fourth Front enters combat. However, all divisions, once present in the theater, would be consuming POL and other supplies, and even rearward divisions could have limited expenditure of air defense ammunition. In both Options, the consumption of forward stocks by air forces could reach a peak within the first few days, then decline as a result of attrition. The following paragraphs consider successively the forward movement of reinforcements (but not of general reserves), of ground support elements of air forces, and of logistic stocks; the availability of stocks in the forward area; and the question of stock distribution within the forward area.

Forward Movement

30. Available transportation resources for the forward movement of reinforcements, ground support elements of air forces, and logistic stocks include rail, road, sea, and air. Sealift, however, is quite vulnerable, and except for the Northern Front, would be slow and involve difficult lateral movement. The bulk of reinforcement and resupply movement

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must be met by road and rail. The airlift of the VTA could
 be required for ABN forces, although logistic requirements,
 such as the movement of nuclear warheads, might have priority.
 Supplementary airlift could be accomplished by Aeroflot.

31. It is expected that units based within 300 kms of
 their alert locations would deploy by road on wheels and tracks
 along pre-planned routes. About 47 divisions therefore have
 the capability for direct movement to initial deployment
 sites using organic transport. Beyond this distance units may
 use rail or move wheeled vehicles only by road. Tank trans-
 porters may be used either to ferry tracked elements to high-
 capacity rail lines or for the long haul forward delivery of
 up to four tank divisions. However, railroads are the main
 means of long distance transportation and the capacity of the
 seven principal through-routes from the Soviet frontier to
 the western borders of East Germany and Czechoslovakia is
 estimated to be over 500,000 metric tons per day. Soviet and
 WP forces are generally well situated to take advantage of
 the comprehensive nature of the transportation network. Many
 units could move on routes other than the main through-lines
 while others could use only sections. Only reinforcing
 forces from the Soviet Union are likely to use the full
 through-routes. A good highway network is also available
 and adds flexibility to the lines of communication. If
 highways had to be used for long distance movement, the
 through-put capacities of the eight major routes is assessed
 at about 120,000 metric tons per day. It is further estimated
 that it will take four to five days to convert the CEMA
 pipeline system west of Brest to carry refined POL products.
 Thereafter the POL resupply capability into East Germany is
 estimated at about 70,000 metric tons per day and at about

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45,000 metric tons per day into central Czechoslovakia. 1
 Establishment of this capability would substantially reduce 2
 the demand on road and rail resupply resources. However, it 3
 should be recognized that in practice these theoretical road, 4
 rail, and pipeline tonnages could decrease due to possible 5
 technical failures, the need for maintenance, and the need to 6
 make space for other essential traffic. 7

32. Activities affecting the speed of forward movement 8
 include the mobilization time of units, the availability of 9
 road and rail capacity and, for units moving by rail, the 10
 positioning of rolling stock, movement to rail facilities, 11
 loading on trains, transloading at the Soviet frontier and 12
 offloading at destinations. Unit and logistic movement would 13
 occur at the same time, frequently over the same elements of 14
 the network, and would, to some extent, compete for route 15
 capacity. A number of operating problems, such as those 16
 described in paragraph 31, could also occur when the lines 17
 of communication are subjected to a sudden and heavy demand. 18
 These impediments would probably not stop the overall 19
 transportation system from functioning, but could cause local 20
 delays which would increase the number of potential warning 21
 indicators. 22

33. Under Option 2, a deliberate buildup of about 86 23
 divisions, together with full army and Front level support, 24
 air elements and logistic stocks, could be moved into 25
 deployment locations opposite the NATO Central Region in 26
 10-14 days depending on movement priority, stockage levels, 27
 and operating conditions. In this illustration the movement of 28
 560,000 metric tons of logistic stocks into the theater to 29
 achieve operational planning levels and the redistribution of 30
 just over 100,000 metric tons from base depots in the theater 31

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to field echelons, were taken into account. It should be
 noted, however, that these calculations reflect demands placed
 on the assessed movement capability of the transportation
 network during an operation when speed is essential. The
 entire process of forward movement, of course, has never
 been rehearsed on a scale approaching that required for war
 and it is uncertain whether the Pact could actually accomplish
 this operation in the time frame indicated. There is also no
 way of knowing when the Pact would initiate such a movement or
 whether it would even seek to carry out a reinforcing
 operation in the manner described herein. Conversely, the
 WP does have the capability to undertake some of the required
 preparations covertly prior to M-Day. Such actions could
 include collection of rolling stock, induction of key
 reservists or depreservation of stored equipment.

34. Under Option 1 the time frame would be significantly
 lower depending on the size of the force involved, the degree
 of surprise intended, the amount of overt preparation
 permitted, the logistic stock level selected, and the phasing
 of pre- and post- D-Day activity.

Storage Capacity(1)

35. General. According to Soviet logistical doctrine,
 each Front should maintain enough supplies in its depots,
 and in the mobile stocks in its armies and divisions, for 30
 days of combat. Altogether, in a theater of military
 operations--which might contain several Fronts--the Soviets
 prescribe stockage of from 2 to 3 months of supplies.
 Ammunition and POL would make up the bulk of Pact logistical
 stocks. There is little information on the actual contents
 of Pact depots in Central Europe, but we have calculated the

(1) See Part II - Section 4 and 6 for Ground and Air Force
 Logistics.

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theoretical capacities of the identified Pact ground force
ammunition and POL depots.

36. Ammunition and POL. The capacity of WP ground
force ammunition depots within the GDR, Poland, and
Czechoslovakia is estimated to be about 1.6 million metric
tons. Based on 80 percent capacity, and on an average
consumption of 35,000 metric tons per day in the theater,
this provides an estimate of over 30 days of combat supplies
for the whole force, in addition to stocks on wheels. POL
stocks in GDR, Poland, and Czechoslovakia are so large (about
4 million metric tons available for military use, based on
80 percent of storage) as initially to place no constraint
on military operations of a force of the size envisaged.
These stocks would suffice for more than 80 days of operations
at normal rates for the entire force without counting oil
deliveries by pipeline to refineries in the GDR, Poland, and
Czechoslovakia. These figures are, at best, a rough
approximation of Pact supply status, but they do suggest
Pact stocks in Central Europe accord with the doctrinal
requirement to stock for 30 days.

37. Stock Distribution in the Forward Area. Stocks held
on wheels in the forward area would be adequate for initial
combat consumption. It is estimated that any necessary
redistribution of stocks from forward area depots to field
depots on the lines of advance can be completed within some
48 hours by the transport resources of ready forces, and not
interfere with resupply or reinforcement. Calculations based
on consumption rates have tended to show in the past that
road transport available in peacetime forces in the forward
area (for example GSFG) have been adequate for nuclear war or
for conventional operations of short duration, but could be

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insufficient in other circumstances. However, improvements
 in Front, army, and divisional transport scales noted
 throughout 1974 suggest that these constraints are being
 eased. It would still be necessary however for reinforcing
 formations to arrive with a full scale of their own logistic
 transport, whether organic or autokolonna, and allowance for
 these vehicles, travelling forward loaded, has been made in
 movement calculations.

CAMPAIGNS AGAINST THE SCANDINAVIAN PENINSULA

38. General. Campaigns against the Scandinavian
 Peninsula would probably constitute a TVD with operations
 being implemented by HQ Leningrad MD and HQ Northern Fleet.
 Plans would be harmonized with at least the Northern Front
 command of the Western TVD. WP objectives would be to destroy
 NATO forces and facilities in Norway, leading to extensions of
 the Soviet early warning and air defense systems, to the
 dispersal of Northern Fleet base facilities to convenient
 Norwegian fiords and to protection of the access routes of
 the Northern Fleets.

39. Forces Available. Details of ground and air forces
 are provided in tabular form in Annex A to this section.
 Additional ground and air forces could, if required, be drawn
 from Baltic MD or what is believed to be a general reserve,
 at the expense of other campaigns. ABN forces would probably
 be included and amphibious support would be provided by naval
 infantry of the Northern Fleet. The fleet itself would
 provide direct support to operations.

Operations

40. Operations against Norway could be mounted either
 into North Norway directly, or into North Norway through
 Finnish Lapland or even through Sweden into Norway. In

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Option 1 readily available forces would not be sufficient to 1
mount simultaneous attack against Norway and Sweden. 2

41. In Option 1 the main initial operation could be a 3
land attack through Finnish Lapland as well as across the 4
Norwegian-Soviet border by the two divisions readily available 5
in the area. This operation could be supported by airborne 6
forces seizing key areas ahead of the advancing troops and by 7
amphibious attacks along the coast. Second echelon forces of 8
a further two or three divisions could be drawn from the 9
central or southern portions of the Leningrad MD subject to 10
movement limitations. It would also be open to the Soviets to 11
exert pressure on Finland to permit the passage of forces 12
across her territory. No effective Finnish opposition should 13
be expected in the north, although the Soviet Union might have 14
to employ forces to secure her position in Finland. 15

42. In Option 2, the size of the initial assault could 16
be extended by a further two divisions in addition to 17
employing up to one division and naval infantry on amphibious 18
tasks. These further divisions could be provided by the 19
lower category forces from Leningrad MD. Option 2 could also 20
open to the Soviet Union the possibility of attacking through 21
Sweden, an operation which would require sizeable land, air, 22
and missile forces. It is probably beyond the capacity of 23
Leningrad MD alone to supply the necessary forces. Pressure 24
on Sweden to allow free passage might be exercised. Operations 25
through Sweden are not developed in this document, but some 26
relevant logistic information is given in paragraphs 43 and 45. 27

Logistic Considerations 28

43. Forward Movement. The roads in the north have 29
greatly improved over the last decades. The Soviets are 30
presently building a road from Leningrad to Murmansk. When 31

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completed, this highway will increase ground movement 1
 capability toward Finland and Norway. Roads in the north 2
 are subject to periods of severe adverse climate, such as 3
 heavy snowfall and spring thaw, the effect of which varies 4
 from occasional closure to restricted movement especially 5
 on the secondary roads. In an advance direct from USSR into 6
 North Norway about one motorized rifle division (MRD) could 7
 be moved per day, if required, and about two divisions could 8
 be moved through Finland. In addition, a seaborne force of 9
 one division could be landed through ports in Northern Norway. 10
 Between Narvik and the Bodo area the movement capability may 11
 be reduced to less than a division per day pending reestab- 12
 lishment of bridges, ferries, etc. The capacity of the 13
 existing rail and road network is adequate to support the 14
 deployment of units. 15

44. Resupply. The roads into and through North Norway 16
 toward Narvik have a daily resupply capacity estimated at 17
 18,000 metric tons. Further south the road between Narvik, and 18
 Bodo could also supply about 18,000 metric tons per day, 19
 provided that suitable craft are available to utilize ferry 20
 crossings. South of Bodo, road and rail could resupply 21
 nearly 30,000 metric tons per day, provided that the supplies 22
 came by sea through Bodo. The transportation system in this 23
 region is capable of conducting resupply of ammunition and 24
 POL to meet operational requirements of force deployment. 25

45. Availability of Stocks. Stocks in Leningrad MD 26
 are more than adequate to initiate and support operations 27
 at the scales indicated above. The stocks are indeed so 28
 large (87 days ammunition, 93 days POL) that it is likely 29
 that part of them is destined for Central Europe. 30
31

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46. General. These campaigns could represent the major part of a single TVD stretching from the Alps to the Caspian Sea. The theater could comprise three, and possibly at a later stage four Fronts, including Soviet, Hungarian, Bulgarian, and Romanian forces. (1) A Danube Front, formed initially of Hungarian and Soviet forces in Hungary, could be responsible for operations through Austria into southern FRG or against Northern Italy, which could also involve the engagement of Austria and/or Yugoslavia or the cooperations of the latter. This Front may also operate into Greece via Yugoslavia. A Balkan Front, formed initially from Bulgarian forces, supported by Soviets, and including Romanian forces, could be responsible for operations against Greece and Turkey; as operations against these two countries diverged, it might be reconstituted into two separate Fronts. A theater reserve could be formed from forces in Odessa MD not initially committed. Soviet forces in the Kiev, Moscow, Ural, and Volga MDs are also considered available for employment in southern Europe. Airborne forces could be committed at any stage of the campaigns, subject to the availability of aircraft. Amphibious forces in the Black Sea could also be involved.

47. Forces Available. Details of the ground and air forces available for this theater are provided in tabular form in Annex A to this Section, and further details of possible grouping are given under each Front below. In

(1) This TVD would probably also include the Caucasus Front oriented against Eastern Turkey and/or Iran. However, for the purposes of this document, details concerning operations in Eastern Turkey and/or Iran are discussed as a separate campaign in paragraphs 60-68.

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addition, units of the Soviet Black Sea Fleet and of the
Bulgarian and Romanian navies, including amphibious units,
could supplement and support operations against Turkey. Some
role might initially be played by units of the Soviet
Mediterranean Squadron (SOVMEDRON).

Danube Front

48. In pursuit of the general objectives stated in
paragraph 15, forces of this Front could aim to destroy NATO
forces in Northern Italy, Greece, or the southern FRG.
Employment of this Front in an offensive role would be
dictated largely by the status of Austria and Yugoslavia
the outset of hostilities or the willingness of the Soviets
to violate neutrality.

49. In Option 1, the forces initially available could
be one Soviet and one Hungarian army from Hungary, comprising
eight divisions and supporting air forces. A second echelon
consisting of the remaining Hungarian forces could be
available, but at a lower state of combat effectiveness.
The capability of such a force would be heavily conditioned
by the attitude of Austria and/or Yugoslavia. In the event
of total Yugoslav cooperation, the threat to Italy and Greece
would increase.

50. In Option 2, it would be open to the Soviets to
build up forces in Hungary to a level permitting major
offensive operations against Italy or Greece if Yugoslav
forces cooperated, or operations to "hold" Italian or Greek
forces if Yugoslavia were uncooperative. In both cases,
forward bases for naval and air operations could be obtained.
The level of forces required to carry out such an offensive
operation would probably not be less than an additional six
to eight Soviet divisions, since in even the most favorable

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situation, the Soviets would possibly retain sizeable forces
for security within Yugoslavia. Such an addition to the
Danube Front could only be achieved with a considerable
deployment of forces from outside the area. There could be
some limitations on the speed of deployment of a force of
this size.

Logistic Considerations

51. Forward Movement. There are three road and two
rail routes crossing the USSR/Hungarian frontier, with an
optimum initial movement capability of five divisions or
190,000 metric tons of resupply per day. The combined use
of present roads, and railways would allow the movement of four
divisions or 175,000 metric tons of resupply per day through
Yugoslavia to Italy. Using main rail lines and roads through
Austria, about two divisions or 40,000 metric tons of resupply
could be moved daily under the best conditions. Routes do not
impose any effective limitation on the resupply of the forces
envisaged in the preceding paragraphs.

52. Stocks. Stocks of ammunition and POL currently
held within Hungary amount to about 55 and 65 days supply
respectively for the forces already within that country. In
the event of reinforcement, there are sufficient stocks of
ammunition and POL within the country for some 40 to 45 days
respectively and additional stocks could be moved forward
from the Soviet Union concurrently with the movement of
forces.

Balkan Front

53. Operations against Western Turkey and Greece could
be intended to destroy NATO forces within these two countries
and eliminate them from the war. Early objectives could
certainly include the seizure of the Turkish Straits that

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control the exit from the Black Sea and selected Aegean Islands, and seizure of a direct outlet to the Aegean coast in Northern Greece. Subsequent objectives might be the rest of Western Turkey and mainland Greece. This could have the effect of completing control of the Aegean Sea including the acquisition of air and naval bases and facilities there.

54. In Option 1, the forces initially available would be six divisions and five tank brigades of the Bulgarian Army, together with the Bulgarian national air force and Soviet air units from Odessa MD. Romanian forces could constitute a second echelon until further Soviet forces became available. Fleet units, amphibious and ABN forces could cooperate in this option. These forces would not be sufficient to launch simultaneous large scale attacks on both Greece and Turkey, and indeed Bulgarian forces alone could not support a sustained major offensive against either country. However, with Soviet support, Bulgaria could develop operations against Turkish or Greek Thrace. Such operations could open into separate thrusts against the Turkish Straits or against Thessaloniki.

55. In Option 2, it could be expected that significant Soviet ground and air forces from Odessa MD and Romanian ground and air forces would have arrived in Bulgaria before the opening of hostilities. In these circumstances, it would be open to the Soviet Theater Commander to launch simultaneous large scale attacks against Greece and Turkey. The attack on Turkey could be led by Bulgarian forces as above, with Soviet and some Romanian forces ready to reinforce them in simultaneous operations against the Bosphorous and Dardenelles. With the additional time to prepare, amphibious and possibly ABN operations on the Black Sea coast of Turkish Thrace and the eastern parts of the Bosphorous could be more

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extensive. Bulgarian forces in the west, supported by some
 Romanian forces and possibly by Soviet forces, could mount an
 attack on Greece through the passes of the Rhodope mountains,
 probably with Thessaloniki as an initial objective. An attack
 could also be mounted through Yugoslavia. After the seizure
 of the initial objectives in Greece, operations could be
 directed towards control of the Aegean Sea area.

56. Granted initial success in these operations, forces
 facing Greece could be likely to develop their operations
 into the Greek mainland, while forces attacking Turkey could
 seek to secure and widen their control of the Black Sea exits
 in preparation for deeper operations. A feature of the
 possible operations into Southern Europe and Western Turkey
 is the extent to which it might be necessary to call upon
 forces from the interior of the Soviet Union if these
 operations are to be pursued to a logical conclusion. Such a
 course would present obvious dangers to the Soviet High
 Command.

Logistic Considerations

57. Movement of Forces. Movement from USSR into
 Bulgaria would mainly be restricted by the limited Danube
 crossing points. The combined rail and road routes could
 support the initial movement of about two divisions per day
 or 143,500 metric tons of resupply. Under good conditions,
 forces already in Bulgaria could move nearly three divisions
 or 88,000 metric tons of resupply per day into Turkish Thrace,
 and about three divisions per day or 87,000 metric tons of
 resupply per day into Greece. These modest figures may lay
 the WP open to some risk of defeat in detail. If rail and
 road routes through Yugoslavia also became available in the
 Monastir Gap and Vardar Valley, their combined use could add

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about two divisions or 64,000 metric tons of resupply per day
to the threat against Greece, but this is only likely to occur
at a later stage.

58. Stocks. Stocks of ammunition in Bulgaria and
Romania are sufficient to support operations for up to 50
days for the force envisaged in Option 2. POL stocks are
so large as to place no constraint on military operations of
the scale envisaged. Stocks from the Odessa MD could be used
to support Soviet forces in operations bordering on the Black
Sea.

59. Resupply. The resupply requirements of the forces
mentioned above are not limited by movement considerations.

CAMPAIGNS AGAINST EASTERN TURKEY (AND IRAN)

60. General. A campaign against Eastern Turkey (and
if necessary against Iran) could constitute either a separate
Front within the Soviet Southwestern TVD or an additional TVD.
Operations against Iran are unlikely to be undertaken
voluntarily by the Soviet Union while engaged with NATO but
she would be obliged to maintain sufficient forces free of
other commitments to conduct at least an aggressive defense.
Against Eastern Turkey, The Soviet Union has the option of
conducting limited offensive operations designed to prevent
redeployment of NATO forces, or to strike into Turkey in
order to destroy her forces, secure the southern flank of the
WP, and link up with thrusts into Anatolia. In this section
the latter course is assumed. ABN forces would be used in
either case, and amphibious forces could be used against the
Black Sea coast.

61. Forces Available. Details of ground and air forces
available for this theater are set out in tabular form in
Annex A. They comprise those available in the Transcaucas

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and North Casucasus MDs, and in the case of Iran, the five 1
divisions in the Turkestan MD; ABN forces; and probably 2
elements of the Black Sea Fleet including amphibious elements 3
and naval aviation. In the event of operations against Iran, 4
the Caspian See Flotilla could also be available. Additional 5
forces from the interior of the Soviet Union could be allotted 6
if required. 7

Operations 8

62. In Option 1, the attacking forces could comprise 9
seven divisions in Transcaucasus MD (excluding divisions which 10
could be reserved for Iran). A second echelon could be 11
provided, after some delay, from the low category divisions 12
in Transcaucasus and North Caucasus MDs. These forces could 13
be inadequate to advance deep into Turkey until reinforcements 14
arrive, but they might aim to open the way for follow-up 15
forces to advance along the Black Sea coast road and through 16
Erzerum. 17

63. In Option 2, a higher category division from North 18
Caucasus MD could be added to the first echelon forces; a 19
second echelon could still be constituted from low category 20
divisions. Operations could follow the same course of action, 21
in somewhat greater intensity, but the possibility of 22
immediately exploiting a breakthrough would be enhanced. 23
Logistic considerations (see pargaraph 65) could, however, 24
limit the concentration of Soviet forces. 25

64. In both Options, small, lightly armed forces, could 26
be landed almost at will on the northeastern Turkish coast. 27

Logistic Considerations 28

65. Forward Movement. Along the west coast of the 29
Caucasus there is one rail and one road leading into the 30
Turkish frontier area. These routes have a combined optimum 31

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initial movement capability of about one division per day or 67,500 metric tons of resupply. In an attack, under good conditions, forces could be moved through border areas at the rates given below, but the movement rate by road may rapidly decrease:

a. from Transcaucasus into Eastern Turkey, the movement capability is two and a half divisions per day or 42,000 metric tons of resupply;

b. from Transcaucasus into Iran, the movement capability is about four to four and half divisions per day or 88,000 metric tons of resupply;

c. from Turkestan into Iran, the movement capability is three divisions per day or 34,000 metric tons of resupply; and

d. from Trabzon to Erzurum the movement capability is one division per day or 6,700 metric tons of resupply.

66. Stocks. Ammunition stocks held in the Transcaucasus, North Caucasus, and Turkestan MDs are sufficient to support operations of the force envisaged in Option 2 for up to 25 days. POL stocks are so large as to place no constraint on operations of the scale envisaged.

67. Resupply. The resupply of the forces mentioned above is not limited by movement considerations.

Further Developments

68. If successful in initial operations, the Soviet Union might aim to extend this campaign to reach the Mediterranean near Iskenderun.

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SUMMARY OF SOVIET AND NSWP
GROUND AND TACTICAL AIR FORCES BY REGION

NATIONALITY AND LOCATION	CATEGORY A	DIVISIONS		TACTICAL AIRCRAFT (1)		MISSION
		CATEGORY B	CATEGORY C	COMBAT AIRCRAFT	HELICOPTERS (1i)	
SOVIET Northwestern USSR (Leningrad MD)	2	2	4	175	70	Northern part of NATO's Northern Region
SOVIET GSFG NGF CGF Western USSR (iii)	20 2 5 3	0 0 0 18	0 0 0 7	740 315 105 975	280 55 20 330	NATO Central Region and Southern part of NATO's Northern Region
NSWP GDR Poland Czechoslovakia	6 10 7	0 3 0	0 2 3	42 369 290	52 41 140	
SOVIET SCF	4	0	0	230	65	Central or Southern Region of NATO
NSWP Hungary	4	0	2	0	40	

(1) FA or NSWP tactical air forces only. Does not include LRA, AVMF, VTA, or national air defense aircraft.
 (ii) Medium and heavy helicopters only.
 (iii) Baltic, Belorussian, and Carpathian MDs.

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NATIONALITY AND LOCATION	DIVISIONS			TACTICAL AIRCRAFT (1)		MISSION
	CATEGORY A	CATEGORY B	CATEGORY C	COMBAT AIRCRAFT	HELICOPTERS (11)	
SOVIET Moscow MD Kiev MD Ural MD Volga MD	0 0 0 0	3 6 1 0	2 4 2 3	160 80 0 0	80 60 0 0	Considered Strategic Reserve
Airborne Divisions	7	0	1	0	0	See Text
SOVIET Southwestern USSR (Odessa MD)	0	3	4	235	90	
NSWP Bulgaria Romania	5 + 5 Bdes 7	1 3	2 0	155 80	36 47	NATO Southern Region
SOVIET Southern USSR (Transcaucasus MD) (North Caucasus MD) (Turkestan MD)	0 0 0	3 1 1	8 5 4	340 0 155	190 0 75	

(1) FA or NSWP tactical air forces only. Does not include LRA, AVMF, VTA, or national air defense aircraft.
 (11) Medium and heavy helicopters only.

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ANNEX A
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SECRETANNEX 1GLOSSARYGENERAL TERMINOLOGY

AA	Anti-Aircraft										
AAA	Anti-Aircraft Artillery										
AACV	Airborne Armored Combat Vehicle										
AAICV	Armored Amphibious Infantry Combat Vehicle										
AAM	Air-to-Air Missile										
AAMG	Anti-Aircraft Machine Gun										
ABM	Anti-Ballistic Missile										
ABN	Airborne										
ACV	Air Cushion Vehicle										
ACW	Anti-Carrier Warfare										
AD	Air Defense										
ADD	Air Defense District										
ADP	Automatic Processing										
ADZ	Air Defense Zone										
AEM	Missile Support Ship										
AEROFLOT	Soviet Civil Aviation										
AFV	Armored Fighting Vehicle										
AGI	Intelligence Collector (Sometimes, SIGINT Ship)										
AI	Airborne Intercept (Radars)										
Aircraft Operational Altitudes	<table> <tr> <td>Very High Altitude</td><td>above 16,000m</td></tr> <tr> <td>High Altitude</td><td>8000-16,000m</td></tr> <tr> <td>Medium Altitude</td><td>300-8000m</td></tr> <tr> <td>Low Altitude</td><td>100-300m</td></tr> <tr> <td>Very Low Altitude</td><td>below 100m</td></tr> </table>	Very High Altitude	above 16,000m	High Altitude	8000-16,000m	Medium Altitude	300-8000m	Low Altitude	100-300m	Very Low Altitude	below 100m
Very High Altitude	above 16,000m										
High Altitude	8000-16,000m										
Medium Altitude	300-8000m										
Low Altitude	100-300m										
Very Low Altitude	below 100m										
AMM	Anti-Missile Missile										
AOB	Air Order of Battle										
AO	Naval Oiler										
AOR	Underway Replenishment Ship										
APC	Armored Personnel Carrier										
APVO	Aviation of PVO										

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AR	Repair Ship
Armed Assault Helicopter	A helicopter with an armament and troop cargo lift capability. Used in conjunction with heliborne assault operations.
AS	Submarine Tender
ASL	Submarine Tender (small)
ASM	Air-to-Surface Missile
ASR	Submarine Rescue Ship
ASW	Anti-Submarine Warfare
AT	Anti-Tank
ATB	Air Technical Battalion
ATGM	Anti-Tank Guided Missile
AW	All-Weather
AWAC	Airborne Warning and Control
Ballistic Missile	A Missile Without Airfoils
BEPO	Bereitschaftspolizei - Emergency Police in GDR
BMD	Soviet Airborne Armored Combat
BMP	Soviet Amphibious Armored Infantry Combat Vehicle
BRDM	Soviet designation for Amphibious Reconnaissance Vehicle
BTR	Armored Personnel Carrier
BW	Biological Warfare
CBU	Cluster Bomb Unit
C ³	Command, Control and Communications
CC	Gun-Armed Cruiser
CEMA	Council for Economic Mutual Assistance. An international communist body for coordinating trade and economic planning comprising the following countries, in alphabetical order: Bulgaria, Cuba, Czechoslovakia, GDR, Hungary, Mongolia, Poland, Romania, USSR. Associated country: Yugoslavia. (Also abbreviated as COMECON, CMEA, CAEM (French), RGW (German), and SEV (Soviet).

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CEP	Circular Error Probable. A measure of the accuracy of a missile/projectile, used as a factor in determining probable damage to a target. It is the radius of a circle within which half of the missile/projectiles are expected to fall.
CL	Light Cruiser
CGF	Central Group of Forces (Soviet Forces in Czechoslovakia).
Chaff	The general name applied to radar confusion reflectors, normally of thin, narrow metallic strips of various lengths and frequency responses to generate echoes.
CHG	Helicopter Ship (SAM armament).
CLCP	Guided Missile Cruiser (SAM armament) with Command Facilities.
CLG	Missile Cruiser (SAM armament).
CLGM	Missile Light Cruiser (SSM and SAM armament).
Clear Air Mass Fighter	A fighter which requires visual acquisition of the target in order to conduct its attack.
Combat Aircraft	An aircraft used in operations against the enemy directly or indirectly but excluding transport aircraft.
Combat Effectiveness	The ability of a unit to accomplish its mission in combat.
Common User Equipment	Items of equipment common to military and civilian use.
Composite Materials	Layers of metallic or non-metallic materials bonded together.
COMSAT	Communications Satellite.
Counterair	Air operations, both air-to-air and air-to-ground, conducted to attain and maintain air superiority. Both air offensive and air defensive actions are involved. (The former range throughout enemy territory and are generally conducted at the initiation of friendly forces. The latter are conducted near to or over friendly territory and are generally reactive to the initiative of enemy air forces.)
Cruise Missile	A flat-trajectory aerodynamic guided missile.

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CVSG	Aircraft Carrier, whose primary mission is to engage in sustained ASW operations and escort convoys. Also, provides close air support for amphibious assault and to ground forces. Equipped with surface-to-air missiles with a range of over 10 miles.
CW	Chemical Warfare.
DD	Gun Armed Destroyer.
DDG	Missile Destroyer (SAM armament only).
DDGM	Missile Destroyer (SSM and SAM armament).
DDGS	Missile Destroyer (SSM armament only).
DDGSP	Missile Destroyer (SSM and point defense SAM armament).
DE	Destroyer Escort.
Designation Laser	Illumination of a target by a laser beam whose reflected energy may be used by a homing weapon.
DICBM	Depressed Trajectory ICBM. An ICBM travelling on a trajectory lower than the normal minimum energy trajectory.
DLG	Destroyer, Large (SAM armament only).
DLGM	Destroyer, Large (SSM and SAM armament).
DOSAAF	All-Union Voluntary Association for Cooperation with the Army, Aviation, and Fleet.
DWT	Deadweight Tons.
ECCM	Electronic Counter-Countermeasures.
ECM	Electronic Countermeasures.
EEC	European Economic Community.
Electro-optics	Field of study concerning devices such as image intensifiers, infrared devices and lasers which employ a combination of electronic and optical principle.
Electronic Warfare	That division of the military use of electronics involving actions taken to prevent or reduce an enemy's effective use of radiated electro-magnetic energy and actions taken to insure our own effective use of radiated electro-magnetic energy.

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ELINT	Electronic Intelligence
Endo-Atmospheric Intercept	Intercept of one missile by another at an altitude where the atmosphere has an effect on the terminal phase of the intercept.
ESM	Electronic Warfare Support Measures
EW	Early Warning
Exo-Atmospheric Intercept	Intercept of one missile by another at an altitude where the atmosphere has little or no effect on the terminal phase of the intercept.
FA	Frontal Aviation
Fluorescent Antibody	A technique for the rapid identification of BW agents. The agents combine with specific substances (antibodies) which are obtained with fluorescent dye and are therefore readily detected under a microscope.
FOBS	Fractional Orbital Bombardment System
Frequency Diversity	The use of several radars operating against the same target at the same time to minimize countermeasures and mutual interference.
FRG	Federal Republic of Germany
FROG	Free Rocket Over Ground
Front Divisional Slice	A division and its proportional share of Army and Front troops of all sorts. For further details see MC 200.
Fuel Cell	Device which transforms chemical energy directly into electrical energy.
GATT	General Agreement on Tariffs and Trade
GBK	Coastal Border Brigade (in GDR Navy)
General Purpose Forces	For definition see 'Soviet General Forces'
GCA	Ground Controlled Approach (radar)
GCI	Ground Controlled Intercept (radar)
GDR	German Democratic Republic
General War	Unrestricted conflict between the Warsaw Pact and NATO
GHz	Gigahertz (10 ⁹ Hertz)

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GM	Guided Missile. A missile directed to its target while in flight or motion.
GNP	Gross National Product. The total value of goods and services produced per year, including depreciation.
GOSPLAN	The State Planning Committee of the USSR
Ground Attack	Any air weapon delivery against surface targets -- normally performed by aircraft of Frontal Aviation.
GRP	Glass Reinforced Plastic
GRT	Gross Registered Tons
GSFG	Group of Soviet Forces Germany
GTT	Soviet Tracked Oversnow Vehicle
HE	High Explosive
Helicopter Gunship	A helicopter performing as a ground attack aircraft with a permanent armament capability and no troop lift capability.
HF	High Frequency. (Frequencies in the bank 3-30 MHz)
Hypersonic Aircraft	Generally, those aircraft capable of air speeds of Mach 3.5-5.5 and above.
ICBM	Intercontinental Ballistic Missile
IDF	Interceptor Day Fighter (Clear Air Mass Fighter)
IFF	Identification Friend or Foe. A system of radio interrogation and reply generally used in connection with radar for identifying an aircraft, ship or craft.
IMF	International Monetary Fund
IR	Infrared
IRBM	Intermediate Range Ballistic Missile
KGB	Soviet designation for Committee of State Security
kt	Kiloton (equivalent in explosive power to one thousand tons of TNT)
LACV	Landing Air Cushion Vehicle
Laser	Device to generate a beam of coherent radiation

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LCM	Landing Craft, Mechanized
LCP	Landing Craft, Personnel
LCU	Landing Craft, Utility
LCVP	Amphibious Craft (small)
LF	Low Frequency (frequencies in the band 30-3000 KHz)
Limited Aggression*	Any armed attack against NATO forces or territory, or actions at sea or in the air, under conditions of self imposed military restraint in which it appears that an armed attack imperils neither the survival of nation(s) nor the integrity of military forces as indicated in a. and b. of Major Aggression. Restraints include voluntary restriction on the objective sought, the areas involved and on the weapons and forces used by the enemy. Limited aggression is considered to include overt incursions and hostile local actions as defined in MC 14/3.
Limited War	Any international armed conflict which is not General War
LORO	Lob-on-Receive-Only, a passive scan technique used as an ECCM
LRA	Long Range Aviation
LSM	Medium Landing Ship
LST	Tank Landing Ship
Mach Number	A number representing speed as a ratio relative to the speed of sound in the surrounding atmosphere.
Major Aggression*	Any nuclear or non-nuclear armed attack against NATO forces or territory, or actions at sea or in the air, in which it has been clearly determined that the aim and scope of an armed attack are such as to imperil, directly, either: <ul style="list-style-type: none"> a. One or more NATO countries, to the extent that survival as free and independent nation(s) is immediately at stake, or b. The integrity of military forces, to the effective accomplishment of NATO strategic objectives are immediately subject to unacceptable deterioration.

* See Annex A to MC 14/3, dated 16 January 1968.

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MBFR	Mutual and Balanced Force Reductions
MCM	Mine Countermeasures
MD	Military District
MF	Medium Frequency (frequency in the band 300 KHz to 3 MHz)
MHC	Coastal Minehunter
MHz	Megahertz
Microwave Link	A radio communications system employing wave lengths of less than one meter (usually high directional and confined to line-of-sight distances).
MIRV	Multiple Independently Targetable Re-entry Vehicle
MOB	Main Operating Base(s)
Mod	Modification
MOD	Ministry of Defense
Monovalent Vaccine	Specific against a particular disease
MPD	Main Political Directorate
MPO	Soviet designation for Maritime Frontier Guard
MRBM	Medium Range Ballistic Missile
MRD	Motorized Rifle Division
MRV	Multiple Re-entry Vehicle
MSC	Coastal minesweeper
MSF	Fleet Minesweeper
MSM	Medium Minesweeper
Mt	Megaton (Equivalent in explosive power to one million tons or TNT)
MVD	Ministry of Internal Affairs (USSR)
NBC	Nuclear Biological and Chemical
NGF	Northern Group of Forces (Soviet Forces in Poland)
NIS	Soviet designation for the Soviet Navy's Observation and Communication Service
NRE	Non-Rotating Earth (used, e.g., as a reference for standardizing the description of missile ranges)

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NSR	Northern Sea Route
NSWP	Non-Soviet Warsaw Pact
OB	Ground Forces Order of Battle
OOB	Naval Order of Battle
Operational Aircraft	An aircraft which can be used for a military role in offense, defense, or support thereof.
OT	Territorial Defense in Poland
PBH	Hydrofoil Patrol Boat
PBV	Post Boost Vehicle
PCE	Coastal Escort, Large Subchaser (500-1000 tons)
PCEP	Patrol Escort, Point Defense
PCH	Hydrofoil Submarine Chaser
PCS	Small Submarine Chaser
Penetration Aid	Devices such as decoys or chaff which are used to facilitate the penetration of defenses.
PGGP	Patrol Guided Missile Boat (SSM and SAM armament)
PGM	Motor Gunboat
Phased Array	A type of radar aerial in which scanning is achieved by changing the phase of the signal fed to the antenna by electronic means instead of by mechanical means.
POL	Petrol, Oil and Lubricants
Polyvalent Vaccines	Those having a simultaneous capability against several diseases
PT	Motor Torpedo Boat
PTF	Fast Patrol Boat
PTH	Hydrofoil Motor Torpedo Boat
PTFG	Large Guided Missile Boat
Pulse Compression	A radar pulse modulation technique which achieves some resolution advantages of using shorter pulses.
PVO	Soviet designation for Air Defense

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PVO Strany	Soviet designation for Air Defense of the Homeland
PVO-Voysk	Soviet designation for Air Defense of Theater Forces
Re-entry Profile	The path followed by a body re-entering the earth's atmosphere
R&D	Research and Development
Repeater Jammer	A receiver-transmitter device which when triggered by enemy electronic radiations, returns synchronized impulses to the enemy equipment for purposes of deception of jamming.
RSFSR	Russian Soviet Federated Socialistic Republic
RT	Voice Transmission
RPV	Remotely Piloted Vehicle
RV	Re-entry Vehicle. The payload and equipment which return to earth through the atmosphere
SALT	SAL(T) Strategic Arms Limitation (Talks)
SAM	Surface-to-air missile
Secondary Radar System	A radar system in which the aircraft or ships under surveillance carry transponders which are activated by signals from interrogating radars. The signals from the transponders may be coded.
Semi-Conductors SGF	Materials with Special Electrical Properties Southern Group of Forces (Soviet Forces in Hungary)
SHE	Super High Frequency
SIGINT	Signal Intelligence (electronic and communications). See also ELINT
SLAR	Sidelooking Airborne Radar. An airborne radar, viewing at right angles to the axis to the vehicle, which produces a presentation of terrain or moving targets.
SLBM	Submarine Launched Ballistic Missile
SLD	Sea Landing Division
SLOC	Sea Lines of Communication
SNA	Soviet Naval Aviation

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Software	The programs which translate human instructions into forms which can be understood and acted upon by computers.
Soviet General Purposes Forces	<p>Include:</p> <ul style="list-style-type: none"> a. Theater forces, i.e., ground combat and tactical air forces plus their associated command, support and service elements up through the level of military districts and groups of forces; b. Naval general purpose forces, i.e., naval forces subordinate to fleets and separate flotillas, including naval air forces, but excluding strategic attack missile submarine forces; and c. Military airlift and sealift elements. In addition, Soviet command and service elements providing general support to all components of the Soviet military establishment are considered where appropriate.
SOVINDRON	Soviet Indian Ocean Squadron
SOVMEDRON	Soviet Mediterranean Squadron
SRF	Strategic Rocket Forces
SS	Diesel-Powered Torpedo Attack Submarine
SSB	Diesel-Powered Ballistic Missile Submarine
SSBN	Nuclear-Powered Ballistic Missile Submarine
SSG	Diesel-Powered Cruise Missile Submarine
SSGN	Nuclear-Powered Cruise Missile Submarine
SSM	Surface-to-Surface Missile
SSN	Nuclear-Powered Attack Submarine
S&T	Science and Technology
STOL	Short Take-Off and Landing
TAA	Tactical Air Army
TASM	Tactical Air-to-Surface Missile
TEL	Transporter-Erector Launcher
Terrain Following Radar	A radar that enables aircraft to fly at a constant altitude above the ground contours.

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Theater Forces	See 'Soviet General Purpose Forces'
TV	Theater of War (Soviet designation)
TVD	Theater of Military Operations
UHF	Ultra High Frequency (frequencies in the band 300-3,000 MHz)
VG	Variable Geometry. A term referring to an aircraft which is capable of altering the sweep of the wings while in flight.
VDS	Variable Depth Sonar
VHF	Very High Frequency (frequencies in the band 30-300 MHz)
VLF	Very Low Frequency (frequencies in the band 3-30 KHz)
VOPO	Volkspolizei - Peoples' Police in GDR
VOR	VHF Omi-Range
V/STOL	Vertical/Short Take-Off and Landing
VTa	Soviet designation for Military Transport Aviation
VTOL	Vertical Take-off and Landing
VVS	Air Forces (USSR)
WOP	Maritime Frontier Guard (Polish Navy)
WP	Warsaw Pact

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SECRETREGIONAL TERMINOLOGYPolitical Regional Definitions

The communist world consists of the following:

USSR	Hungary	Poland
Communist China	Mongolia	Romania
Albania	North Korea	German Democratic
Bulgaria	North Vietnam	Republic (GDR)
Cuba		Yugoslavia
Czechoslovakia		

The Soviet Bloc is defined as consisting of the following members of the Warsaw Pact:

USSR	Poland
Bulgaria	Romania
Czechoslovakia	GDR
Hungary	

For a fuller discussion of the political alignment of Albania, Cuba and Yugoslavia, see Part I, Section 1.

Geographical Regional Definitions

Europe: All European countries on the continent from the Atlantic to the Ural Mountains.

Eurasia: Europe and Soviet Asia.

North America: United States and Canada.

Nordic Area:

Denmark	Norway
Finland	Sweden
Iceland	

Western Continental Europe:

Austria	France	Luxembourg
Belgium	Federal Republic	Netherlands
Denmark	of Germany	Switzerland

Western Insular Europe: British Isles and Eire

Scandinavian Peninsula: Norway and Sweden

Iberian Peninsula: Gibraltar, Portugal and Spain

Southern Europe: Greece, Italy, Turkish Thrace and Yugoslavia

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SECRETEastern Europe:

Albania	Bulgaria	Czechoslovakia
German Demo-	Hungary	Poland
cratic Republic	Romania	Yugoslavia

South Eastern Europe:

Albania	Romania
Bulgaria	Turkey
Greece	Yugoslavia

Middle East:

Cyprus	Israel	Egypt
Iran	Jordan	Saudi Arabia
Iraq	Lebanon	Syria
Turkey		

Far East and Southeast Asia:

Bhutan	Japan	South Vietnam
Burma	Laos	Pakistan
Cambodia	Macao	Philippines
Ceylon	Malaysia	Sikkim
Communist China	Mongolia	Soviet Territory in
Formosa	Nepal	the Far East
Hong Kong	North Korea	SW Pacific Islands
India	South Korea	Thailand
Indonesia	North Veitnam	Tibet

North Africa:

Algeria	Egypt	Libya
Morocco	Tunisia	

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Annex 1

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	<u>ANNEX 2</u>	<u>1</u>
	<u>DESIGNATION OF CURRENT SOVIET AIRCRAFT</u>	<u>2</u>
<u>FIGHTERS</u>		<u>3</u>
<u>Fixed Wing</u>		<u>4</u>
Single Jet	FAGOT	MIG-15 <u>5</u>
	FISHBED	MIG-21 <u>6</u>
	FISHPOT B/C	SU-9 (U) /SU-11 (S) <u>7</u>
	FITTER A	SU-7 <u>8</u>
	FRESCO	MIG-17 <u>9</u>
Twin Jet	FARMER	MIG-19 <u>10</u>
	FIDDLER	TU-128 (S) <u>11</u>
	FIREBAR	YAK-28P <u>12</u>
	FLAGON	SU-15 (C) <u>13</u>
	FLASHLIGHT	YAK-25 <u>14</u>
	FOXBAT	MIG-25 <u>15</u>
<u>Variable Geometry Wing (VG)</u>		<u>16</u>
	FITTER B/C	SU-17 (C) /Unknown <u>17</u>
	FLOGGER	MIG-23 <u>18</u>
	FENCER	SU-19 (C) <u>19</u>
<u>BOMBERS</u>		<u>20</u>
<u>Fixed Wing</u>		<u>21</u>
Twin Jet	BEAGLE	IL-28 <u>22</u>
	BREWER	YAK-28 <u>23</u>
	BADGER	TU-16 <u>24</u>
	BLINDER	TU-22 <u>25</u>
Four Turboprop	BEAR	TU-95 <u>26</u>
Four Jet	BISON	M-4 <u>27</u>
<u>Variable Geometry Wing (VG)</u>		<u>28</u>
	BACKFIRE	TU-Unknown <u>29</u>
		<u>30</u>
		<u>31</u>

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	<u>ANNEX 2</u>	<u>1</u>
	<u>DESIGNATION OF CURRENT SOVIET AIRCRAFT</u>	<u>2</u>
<u>FIGHTERS</u>		<u>3</u>
<u>Fixed Wing</u>		<u>4</u>
Single Jet	FAGOT MIG-15	<u>5</u>
	FISHBED MIG-21	<u>6</u>
	FISHPOT B/C SU-9 (U) /SU-11 (S)	<u>7</u>
	FITTER A SU-7	<u>8</u>
	FRESCO MIG-17	<u>9</u>
Twin Jet	FARMER MIG-19	<u>10</u>
	FIDDLER TU-128 (S)	<u>11</u>
	FIREBAR YAK-28P	<u>12</u>
	FLAGON SU-15 (C)	<u>13</u>
	FLASHLIGHT YAK-25	<u>14</u>
	FOXBAT MIG-25	<u>15</u>
<u>Variable Geometry Wing (VG)</u>		<u>16</u>
	FITTER B/C SU-17 (C) /Unknown	<u>17</u>
	FLOGGER MIG-23	<u>18</u>
	FENCER SU-19 (C)	<u>19</u>
<u>BOMBERS</u>		<u>20</u>
<u>Fixed Wing</u>		<u>21</u>
Twin Jet	BEAGLE IL-28	<u>22</u>
	BREWER YAK-28	<u>23</u>
	BADGER TU-16	<u>24</u>
	BLINDER TU-22	<u>25</u>
Four Turboprop	BEAR TU-95	<u>26</u>
Four Jet	BISON M-4	<u>27</u>
<u>Variable Geometry Wing (VG)</u>		<u>28</u>
	BACKFIRE TU-Unknown	<u>29</u>
		<u>30</u>
		<u>31</u>

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SECRETCOMBAT TRAINERS

Single Jet	MAIDEN	USU-9	<u>1</u>
	MAYA	L-29	<u>2</u>
	MONGOL	UMIG-21	<u>3</u>
	MOUJIK	USU-7	<u>4</u>
	MIDGET	UMIG-15	<u>5</u>
	ISKRA (1)	TS-11 (1) L-39 (1)	<u>6</u>
Twin Jet	MASCOT	UIL-28	<u>7</u>
	MAESTRO	UYAK-28	<u>8</u>
	MAGNUM	YAK-30	<u>9</u>
	MANTIS	YAK-32	<u>10</u>

TRANSPORTSCriteria (2)

Light Transport	Payload under 6,800 kg.	<u>11</u>
Medium Transport	Payload 6,800 to 21,000 kg	<u>12</u>
	and a combat radius of at	<u>13</u>
	least 1,100 km.	<u>14</u>
Heavy Transport	Payload over 21,000 kg and a	<u>15</u>
	combat radius of at least	<u>16</u>
	2,200 km.	<u>17</u>

Light (3)

Twin Reciprocating	CAB	LI-2	<u>18</u>
	COACH	IL-12	<u>19</u>
	CRATE	IL-14	<u>20</u>

- 21
- (1) These aircraft have not been given designations by the
Air Standardization Coordinating Committee. ISKRA is
the indigenous designation. 22
- (2) These criteria are based on most economical fuel loads. 23
- (3) A large number of small transports are used for liaison
and light cargo duties but are not considered in AOBs. 24
These aircraft include the CLOD (AN-14), COLT (AN-2),
and CREEK (YAK-12). 25

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Twin Turboprop	COKE	AN-24	<u>1</u>
	CURL	AN-26	<u>2</u>
	CASH	AN-28	<u>3</u>
	CLANK	AN-30	<u>4</u>
	CUFF	BE-30	<u>5</u>
Twin Jet	COOKPOT	TU-124	<u>6</u>
Three Jet	CODLING	YAK-40	<u>7</u>
<u>Medium</u>			<u>8</u>
Twin Turboprop	CAMP	AN-8	<u>9</u>
Twin Jet	CAMEL	TU-104	<u>10</u>
	CRUSTY	TU-134	<u>11</u>
Three Jet	CARELESS	TU-154	<u>12</u>
Four Turboprop	CAT	AN-10	<u>13</u>
	COOT	IL-18	<u>14</u>
	CUB	AN-12	<u>15</u>
<u>Heavy</u>			<u>16</u>
Four Turboprop	CLEAT	TU-114	<u>17</u>
	COCK	AN-22	<u>18</u>
Four Jet	CLASSIC	IL-62	<u>19</u>
	CANDID	IL-76	<u>20</u>
	CHARGER	TU-144	<u>21</u>
<u>HELICOPTERS</u>			<u>22</u>
<u>Light</u>			<u>23</u>
Single Reciprocating	HARE	MI-1	<u>24</u>
Twin Reciprocating	HEN	KA-15	<u>25</u>
	HOG	KA-18	<u>26</u>
	HOODLUM	KA-26	<u>27</u>
Twin Turboshaft	HOPLITE	MI-2	<u>28</u>
			<u>29</u>
			<u>30</u>
			<u>31</u>

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<u>Medium</u>			<u>1</u>
Single Reciprocating	HOUND	MI-4	<u>2</u>
Twin Turboshaft	HIP	MI-8	<u>3</u>
	HORMONE	KA-25	<u>4</u>
	HIND	MI-24	<u>5</u>
<u>Heavy</u>			<u>6</u>
Twin Turboshaft	HARKE	MI-10	<u>7</u>
	HOOK	MI-6	<u>8</u>
<u>MISCELLANEOUS</u>			<u>9</u>
<u>ASW</u>			<u>10</u>
Twin Reciprocating/Amphibian	MADGE	BE-6	<u>11</u>
Twin Turboprop/Amphibian	MAIL	BE-12	<u>12</u>
Four Turboprop	MAY	IL-38	<u>13</u>
	BEAR F	TU-95 (modified)	<u>14</u>
<u>AWAC</u>			<u>15</u>
Four Turboprop	MOSS	TU- (unknown)	<u>16</u>
<u>Reconnaissance</u>			<u>17</u>
Twin Jet	MANDRAKE (1)	YAK-27RV (S)	<u>18</u>
	MANGROVE	YAK-27R	<u>19</u>
<u>PROTOTYPES</u>			<u>20</u>
<u>Fighter</u>			<u>21</u>
<u>V/STOL</u>			<u>22</u>
Jet	Undesignated	Unknown	<u>23</u>
<u>Helicopter</u>			<u>24</u>
Heavy Four Turboshaft			<u>25</u>
Twin Rotor	HOMER	MI-12	<u>26</u>
			<u>27</u>
			<u>28</u>
(1) Primarily a high-altitude target aircraft.			<u>29</u>
			<u>30</u>
			<u>31</u>

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SECRETANNEX 3SUBMARINE RANGE CATEGORIES AND ENDURANCE

1. For convenience, submarines are arbitrarily categorized for range according to their endurance capability.

2. The following tables show Warsaw Pact and Yugoslav submarines, divided into these categories.

<u>RANGE CATEGORIES</u>	<u>CLASS</u>	<u>MAX. OPERATIONAL ENDURANCE</u>
<u>a. Warsaw Pact Units</u>		
Long (over 10,000 nm)	All nuclear classes	90 days (i)
	GOLF	75 days
	FOXTROT	75 days
	JULIETT	75 days
	TANGO	75 days
	ZULU	75 days
Medium (5,000-10,000 nm)	BRAVO	50 days
	ROMEO	50 days
	WHISKEY	50 days
Short (under 5,000 nm)	QUEBEC	30 days
<u>b. Yugoslav Units</u>		
Short (under 5,000 nm)	HEROJ	30 days
	SUTJESKA	30 days

(i) Limited only by crew endurance and availability of consumables.

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Annex 3